E.I.S. Hydrology
Field Measurements Form

Date 3/13/98 Station # 810-1

Company EARTHCO-WELLINGTON LOADOUT SITE

Time 13:00

Flow/Depth 20' x 1.5' x 1.0 fps = 30 CFS

pH 8.41

Specific Conductivity 1680

Water Temperature 8.2

Air Temperature 49

Dissolved Oxygen 8.6

Type: Spring___ Stream X Well___ Discharge___ NPDES___

Collection Point Above Culvert

Appearance of Water: Clear ✓ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Wellington Loadout Site
Sample ID: SW-1
Lab ID: 0398W01230
Matrix: Water
Condition: Cool/Intact

Date Received: 03/17/98
Date Reported: 04/06/98
Date Sampled: 03/12/98
Time Sampled: 1300

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.2	s.u.			0.1	EPA 150.1	03/17/98	1600	AP
Electrical Conductivity	2,390	µmhos/cm			10	EPA 120.1	03/17/98	1600	AP
Solids --Total Dissolved	1,930	mg/L			10	EPA 160.1	03/19/98	0800	BJ
Solids - Total Suspended	23	mg/L			2	EPA 160.2	03/23/98	0915	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	03/17/98	1430	CR
Alkalinity	309	mg/L			1	EPA 310.1	03/22/98	0900	AP
Hardness	962	mg/L			1	Calculation	03/31/98	1245	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	377	mg/L	6.18	meq/L	1	EPA 310.1	03/22/98	0900	AP
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Chloride	64	mg/L	1.82	meq/L	1	EPA 300.0	03/19/98	0800	AP
Sulfate	1,010	mg/L	21.1	meq/L	5	EPA 300.0	03/19/98	0800	AP
MAJOR CATIONS									
Calcium	194	mg/L	9.68	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Magnesium	116	mg/L	9.55	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Potassium	8.4	mg/L	0.22	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Sodium	258	mg/L	11.2	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			30.7	meq/L	N/A	Calculation	03/31/98	1245	JG
Anion Sum			29.1	meq/L	N/A	Calculation	03/31/98	1245	JG
Cation/Anion Balance			2.70	%	N/A	Calculation	03/31/98	1245	JG
DISSOLVED METALS									
Boron	0.29	mg/L			0.05	EPA 200.7	03/18/98	0700	ST
Iron	0.14	mg/L			0.02	EPA 200.7	03/18/98	0700	ST
Manganese	0.056	mg/L			0.005	EPA 200.7	03/18/98	0700	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/25/98	1115	AL
TOTAL METALS									
Boron	0.29	mg/L			0.05	EPA 200.7	03/20/98	1400	ST
Iron	0.48	mg/L			0.02	EPA 200.7	03/20/98	1400	ST
Manganese	0.554	mg/L			0.005	EPA 200.7	03/20/98	1400	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/20/98	1100	AL

FIELD DATA

FLOW: 30 CFS WATER TEMP: 8.2 °C
pH: 8.41 AIR TEMP: 9.4 °C
SC: 1680 DO: 8.6

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: _____
John Green, Water Lab Supervisor

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-1
Lab ID: 0397W02843
Matrix: Water
Condition: Cool/Intact

WB 2-16-98

Date Received: 12/05/97
Date Reported: 01/03/98
Date Sampled: 12/02/97
Time Sampled: 1027

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.2	s.u.			0.1	EPA 150.1	12/05/97	1600	AP
Electrical Conductivity	2,550	µmhos/cm			10	EPA 120.1	12/05/97	1600	AP
Solids - Total Dissolved	2,050	mg/L			10	EPA 160.1	12/08/97	0810	BJ
Solids - Total Suspended	10	mg/L			2	EPA 160.2	12/10/97	1010	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	12/05/97	1300	CR
Alkalinity	335	mg/L			1	EPA 310.1	12/12/97	0942	BJ
Hardness	1,090	mg/L			1	Calculation	12/22/97	1400	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	408	mg/L	6.69	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Chloride	112	mg/L	3.15	meq/L	1	EPA 300.0	12/10/97	1400	AP
Sulfate	1,110	mg/L	23.1	meq/L	5	EPA 375.4	12/16/97	0900	AP
MAJOR CATIONS									
Calcium	222	mg/L	11.1	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Magnesium	130	mg/L	10.7	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Potassium	6.9	mg/L	0.18	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Sodium	264	mg/L	11.5	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			33.5	meq/L	N/A	Calculation	12/22/97	1400	JG
Anion Sum			33.0	meq/L	N/A	Calculation	12/22/97	1400	JG
Cation/Anion Balance			0.720	%	N/A	Calculation	12/22/97	1400	JG
DISSOLVED METALS									
Boron	0.32	mg/L			0.05	EPA 200.7	12/08/97	1514	ST
Iron	0.39	mg/L			0.02	EPA 200.7	12/08/97	1514	ST
Manganese	0.147	mg/L			0.005	EPA 200.7	12/08/97	1514	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/09/97	1515	AL
TOTAL METALS									
Boron	0.32	mg/L			0.05	EPA 200.7	12/17/97	1610	ST
Iron	0.60	mg/L			0.02	EPA 200.7	12/17/97	1610	ST
Manganese	0.139	mg/L			0.005	EPA 200.7	12/17/97	1610	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/15/97	1200	AL

Temp 4°C
Flow 50 CFS
PH 8.37

Cond. 2460
DO. 8.0

Field data from mine's spread sheet in "multi-sites per page" section WB

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF, 19th Edition, 1995.

Reviewed By: John Green
John Green, Water Lab Supervisor

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

tt 11/3

BC MB 12-3-97

Client: NEICO
Project: Surface Water
Sample ID: SW-1
Lab ID: 0397W01804
Matrix: Water
Condition: Intact

Date Received: 08/26/97
Date Reported: 09/26/97
Date Sampled: 08/19/97
Time Sampled: 1120

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
14 pH	8.1	s.u.	<0.01	meq/L	0.1	EPA 150.1	08/26/97	1552	BC
Electrical Conductivity	1,850	µmhos/cm			10	EPA 120.1	08/26/97	1552	BC
08 Solids - Total Dissolved	1,700	mg/L			10	EPA 160.1	09/02/97	1305	AP
10 Solids - Total Suspended	111	mg/L			2	EPA 160.2	08/27/97	1455	BC
01 Solids - Settleable	0.1	mL/L			0.1	EPA 160.5	08/27/97	1010	CR
02 Alkalinity (CaCO3)	278	mg/L			1	EPA 310.1	08/29/97	1115	BC
03 Hardness (CaCO3)	750	mg/L			1	Calculation	09/22/97	1325	JG
MAJOR ANIONS									
50 Bicarbonate (HCO3)	339	mg/L	5.55	meq/L	1	EPA 310.1	08/29/97	1115	BC
52 Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
55 Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
53 Chloride	41	mg/L	1.17	meq/L	1	EPA 300.0	09/03/97	1300	AP
00 Sulfate	645	mg/L	13.4	meq/L	5	EPA 300.0	09/03/97	1300	AP
MAJOR CATIONS									
[illegible] Calcium	155	mg/L	7.76	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
[illegible] Magnesium	87.8	mg/L	7.23	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
209 Potassium	4.8	mg/L	0.12	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
206 Sodium	167	mg/L	7.25	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
CATION / ANION BALANCE QC INFORMATION									
133 Cation Sum			22.4	meq/L	N/A	Calculation	09/22/97	1325	JG
134 Anion Sum			20.2	meq/L	N/A	Calculation	09/22/97	1325	JG
Cation/Anion Balance			5.20	%	N/A	Calculation	09/22/97	1325	JG
DISSOLVED METALS									
34 Boron	0.230	mg/L			0.05	EPA 200.7	09/11/97	0935	MS
40 Iron	0.100	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
43 Manganese	<0.005	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
46 Selenium	<0.005	mg/L			0.005	EPA 270.3	08/28/97	1045	AL
TOTAL METALS									
166 Boron	0.240	mg/L			0.05	EPA 200.7	09/11/97	0935	MS
145 Iron	0.84	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
149 Manganese	0.090	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
153 Selenium	<0.005	mg/L			0.005	EPA 270.3	09/05/97	1945	AL

Temp. 19°C
FLOW 50 CFS
pH 8.38
Sp. C. 1478

DO 6.2 ppm

See multi sites/pg section for field data.

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

See T-Oil & Grease pg in multi-sites/pg section

Reviewed By: [signature]
Wes Harvey, Laboratory Manager

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

CM 811 QC MB 9-8-97

Client: NEICO
Project: Surface Water
Sample ID: SW-1
Lab ID: 0397W00862
Matrix: Water
Condition: Intact

Date Received: 05/19/97
Date Reported: 06/23/97
Date Sampled: 05/14/97
Time Sampled: 1140

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.3	s.u.			0.1	EPA 150.1	05/19/97	1200	BJ
Electrical Conductivity	717	µmhos/cm			10	EPA 150.1	05/19/97	1200	BJ
Solids - Total Dissolved	456	mg/L			10	EPA 160.1	05/19/97	1545	BJ
Solids - Total Suspended	1,590	mg/L			2	EPA 160.2	05/22/97	0940	BJ
Solids - Settleable	1.49	mL/L			0.1	EPA 160.5	05/20/97	0915	CR
Alkalinity (CaCO3)	247	mg/L			1	EPA 310.1	05/21/97	1405	BJ
Hardness (CaCO3)	325	mg/L			0.2	Calculation	05/18/97	0949	JW
Oil & Grease (Water)	<1	mg/L			1	EPA 413.2	05/22/97	0900	SW
MAJOR ANIONS									
Bicarbonate (HCO3)	285	mg/L	4.67	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Carbonate (CO3)	7.80	mg/L	0.26	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Chloride	14.2	mg/L	0.40	meq/L	1	EPA 325.2	05/22/97	1547	BJ
Sulfate	125	mg/L	2.60	meq/L	5	EPA 375.3	05/20/97	1412	BJ
MAJOR CATIONS									
Calcium	71.1	mg/L	3.55	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Magnesium	35.7	mg/L	2.94	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Potassium	2.55	mg/L	0.07	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Sodium	39.9	mg/L	1.73	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			8.29	meq/L	0.01	Calculation			
Anion Sum			7.93	meq/L	0.01	Calculation			
Cation/Anion Balance			2.22	%	0.01	Calculation			
DISSOLVED METALS									
Boron	<0.1	mg/L			0.1	EPA 200.7	05/20/97	1117	JW
Iron	0.47	mg/L			0.02	EPA 200.7	05/18/97	1117	JW
Manganese	0.015	mg/L			0.005	EPA 200.7	05/18/97	1117	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	05/21/97	1312	GB
TOTAL METALS									
Boron	0.19	mg/L			0.1	EPA 200.7	05/29/97	1401	JW
Iron	17.5	mg/L			0.02	EPA 200.7	05/29/97	1401	JW
Manganese	0.514	mg/L			0.005	EPA 200.7	05/29/97	1401	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	06/03/97	1150	AL

* SEE MULTI-SITES/PAGE SECTION FOR FIELD DATA.

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020 Revised March, 1983.

Reviewed By: GB
Gloria Bartlett, Asst. Lab Manager

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

QC 4/5/97

Cm 5-2

Client:	EARTHCO		
Project:	Castle Valley Resources SW		
Sample ID:	SW-1	**Date Received:**	03/27/97
Lab ID:	0397W00453	**Date Reported:**	04/11/97
Matrix:	Water	**Date Sampled:**	03/24/97
Condition:	Cool/Intact	**Time Sampled:**	1315

Parameter	Analytical Result	Units		Units
GENERAL PARAMETERS				
pH	8.1	s.u.		
Electrical Conductivity	1,030	µmhos/cm		
Solids - Total Dissolved	722	mg/L		
Solids - Total Suspended	2,650	mg/L		
Solids - Settleable	3.0	mL/L		
Alkalinity	197	mg/L		
Hardness	386	mg/L		
Oil & Grease	<1	mg/L		
MAJOR ANIONS				
Bicarbonate (HCO3)	240	mg/L	3.94	meq/L
Carbonate (CO3)	<1	mg/L	<0.03	meq/L
Hydroxide (OH)	<1	mg/L	<0.06	meq/L
Chloride	30.0	mg/L	0.84	meq/L
Sulfate	321	mg/L	6.68	meq/L
MAJOR CATIONS				
Calcium	76.9	mg/L	3.84	meq/L
Magnesium	47.0	mg/L	3.87	meq/L
Potassium	3.96	mg/L	0.10	meq/L
Sodium	83.4	mg/L	3.63	meq/L
CATION / ANION BALANCE QC INFORMATION				
Cation Sum			11.4	meq/L
Anion Sum			11.5	meq/L
Cation/Anion Balance			0.09	%
DISSOLVED METALS				
Boron	0.13	mg/L		
Iron	0.44	mg/L		
Manganese	0.05	mg/L		
Selenium	<0.005	mg/L		
TOTAL METALS				
Boron	0.24	mg/L		
Iron	18.1	mg/L		
Manganese	1.00	mg/L		
Selenium	<0.005	mg/L		

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: GB

Gloria Bartlett, Asst. Lab Manager

MM 3113

DC NB 12-4-97

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 ✓ Station # SW-1

Company Earth Co

Time 11:40

Flow/Depth 45'w x 3.0'D 1.5 fps ~~202.5 cfs~~

pH 7.89

Specific Conductivity 3.24 x 1000 3240

Water Temperature 6°C

Air Temperature

Dissolved Oxygen 11.5, 10.75, 11.0 ≈ 11.0

12-4-97
Spoke with Anna Traweek. She called EIS and got correct flow:
45'w x 3'D x 0.5 fps
⇒ 67.5 cfs
NB

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point Above Simpson Road

Appearance of Water: Clear___ Milky___ Cloudy ✓ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor D.S.

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter Mountain Laboratories, Inc.

QC MB 1-4-97

2506 W. Main Street
Farmington, New Mexico 87401

CM 3/13

Client:	EarthCo	Date Reported:	01/14/97
Project:	Wellington - Castle Valley Resources Surface Water	Date Sampled:	12/16/969
Sample ID:	SW 1	Time Sampled:	11:40 AM
Laboratory ID:	0396W02739	Date Received:	12/19/96
Sample Matrix:	Water		
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	7.9	s.u.		
Lab Conductivity @ 25° C	3,150	umhos/cm		
Total Dissolved Solids @ 180°C	2,800	mg/L		
Total Dissolved Solids (Calc)	2,650	mg/L		
Total Suspended Solids	31	mg/L		
Settleable Solids	<0.1	ml/L		
Total Alkalinity as CaCO3	380	mg/L		
Total Hardness as CaCO3	1,270	mg/L		
Oil & Grease	<1.0	mg/L		
Bicarbonate as HCO3	470	mg/L	7.64	meq/L
Carbonate as CO3	<1.00	mg/L	<0.01	meq/L
Hydroxide as OH	<1.00	mg/L	<0.01	meq/L
Chloride	76.4	mg/L	2.15	meq/L
Sulfate	1,560	mg/L	32.6	meq/L
Calcium	260	mg/L	12.7	meq/L
Magnesium	150	mg/L	12.7	meq/L
Potassium	8.60	mg/L	0.22	meq/L
Sodium	360	mg/L	15.6	meq/L
Cations			41.3	meq/L
Anions			42.4	meq/L
Cation/Anion Difference			1.32	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by LJM

Reviewed by DB

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

OC MB 1-4

Client:	EarthCo		
Project:	Wellington - Castle Valley Resources Surface Water	Date Reported:	01/14/97
Sample ID:	SW 1	Date Sampled:	12/16/969
Laboratory ID:	0396W02739	Time Sampled:	11:40 AM
Sample Matrix:	Water	Date Received:	12/19/96
Condition:	Cool/Intact		

CM 3/13

Parameter	Dissolved Analytical Result	Total Analytical Result	Units
Trace Metals			
Boron	0.44*	0.48*	mg/L
Iron	0.26*	0.77*	mg/L
Manganese	0.22*	0.21*	mg/L
Selenium	<0.005*	<0.005*	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: *Dissolved Mn > Total Mn, but within laboratory tolerances.

Reported by LM

Reviewed by DB

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
SINCE 1908
SGS Member of the SGS Group (Société Générale de Surveillance)
PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

SH 5-14

September 10, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151
LINDA DASILVA

QC cw 5/20

Sample identification by NEICO

Kind of sample reported to us Water — SW-1

Sample taken at — Rec'd 1331 hr. Sampled 1010 hr.

Sample taken by EIS

Date sampled August 20, 1996

Date received August 20, 1996

Analysis report no. 59-16373

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	303	5	mg/l as HCO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Carbonate	19	5	mg/l as CO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Total	280	5	mg/l as $CaCO_3$	EPA 310.1	08-22-1996 0800 SW
Anions	29.7	----	meq/l	---------	09-06-1996 1430 JJ
Calcium, Total	179	1	mg/l	EPA 215.1	08-29-1996 0830 MK
Cations	29.3	----	meq/l	---------	09-06-1996 1430 JJ
Chloride	48	1	mg/l	SM4500-Cl-B	08-27-1996 0800 SW
Conductivity	2345	1	umhos/cm	SM2510-B	08-28-1996 1430 SW
Hardness, Total	900	----	mg/l as $CaCO_3$	SM2340-B	09-06-1996 1430 JJ
Iron, Total	0.4	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Magnesium, Total	110	2	mg/l	EPA 242.1	08-29-1996 0900 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Oil & Grease	<2	2	mg/l	SM5520-B	08-21-1996 0630 JC
pH	8.23	----	pH units	EPA 150.1	08-20-1996 1715 JJ
Potassium, Total	6	1	mg/l	EPA 258.1	08-29-1996 1100 MK
Sodium, Total	257	2	mg/l	EPA 273.1	08-29-1996 1130 MK
Solids, Settleable	<0.5	0.5	ml/l	EPA 160.5	08-20-1996 1430 SW
Solids, Total Dissolved	1940	10	mg/l	EPA 160.1	08-22-1996 0700 JC
Solids, Total Suspended	18	5	mg/l	EPA 160.2	08-22-1996 0700 JC
Sulfate	1093	100	mg/l	EPA 375.4	09-05-1996 1300 SW
Cation/Anion Balance	-0.7	----	%		09-06-1996 1430 JJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.
Larry Stout
Huntington Laboratory

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May 21, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151

Sample identification by
NEICO

CM 3/7

Kind of sample reported to us Water

SW-1

Sample taken at

Rec'd 1356 hr.
Sampled 1210 hr.

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab. Due to high TSS, charge balance not achieved.

Date sampled May 9, 1996

Date received May 9, 1996

Analysis report no. 59-15947

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	288	2	mg/l as HCO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Carbonate	9	2	mg/l as CO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Total	251	2	mg/l as $CaCO_3$	EPA 310.1	05-13-1996 0700 SW
Anions	10.4	----	meq/l	---------	05-17-1996 1130 BR
Calcium, Total	115	0.2	mg/l	EPA 215.1	05-13-1996 0800 MK
Cations	13.1	----	meq/l	---------	05-17-1996 1130 BR
Chloride	25.0	0.4	mg/l	SM4500-Cl-B	05-15-1996 1000 SW
Conductivity	915	1	umhos/cm	SM2510-B	05-14-1996 0800 SW
Hardness, Total	499	----	mg/l as $CaCO_3$	SM2340-B	05-17-1996 1130 BR
Iron, Total	7.94	0.06	mg/l	EPA 236.1	05-13-1996 1145 MK
Iron, Dissolved	<0.03	0.03	mg/l	EPA 236.1	05-13-1996 1145 MK
Magnesium, Total	51	1.2	mg/l	EPA 242.1	05-13-1996 0830 MK
Manganese, Total	0.31	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Manganese, Dissolved	<0.04	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Oil & Grease	<2	2	mg/l	SM5520-B	05-10-1996 0700 JC
pH	8.37	----	pH units	EPA 150.1	05-10-1996 1300 BR
Potassium, Total	4.7	0.6	mg/l	EPA 258.1	05-13-1996 1330 MK
Sodium, Total	73	0.6	mg/l	EPA 273.1	05-13-1996 1345 MK
Solids, Settleable	0.7	0.5	ml/l	EPA 160.5	05-10-1996 0700 JC
Solids, Total Dissolved	658	9	mg/l	EPA 160.1	05-13-1996 0700 JC
Solids, Total Suspended	309	5	mg/l	EPA 160.2	05-09-1996 0700 JC
Sulfate	224.0	20	mg/l	EPA 375.4	05-14-1996 1330 SW
Cation/Anion Balance	11.7	----	%		05-17-1996 1130 BR

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Huntington Laboratory

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April 17, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230
LAS VEGAS, NEVADA 89151

Sample identification by
NEICO

SW-1

Rec'd 1700 hr.
Sampled 1500 hr.

Kind of sample reported to us Water

Sample taken at

Sample taken by EIS

Date sampled March 26, 1996

Date received March 26, 1996

NOTE: Dissolved metals filtered at Lab. Due to high TSS, charge balance not achieved.

Analysis report no. 59-15877

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	298	2	mg/l as HCO_3	SM2320-B	04-02-1996 0800 SW
Alkalinity, Carbonate	9	2	mg/l as CO_3	SM2320-B	04-02-1996 0800 SW
Alkalinity, Total	260	2	mg/l as $CaCO_3$	EPA 310.1	04-02-1996 0800 SW
Anions	10.4	----	meq/l	---------	04-11-1996 1600 BR
Calcium, Total	101	0.2	mg/l	EPA 215.1	03-28-1996 1230 MK
Cations	13.2	----	meq/l	---------	04-11-1996 1600 BR
Chloride	44.0	0.4	mg/l	SM4500-Cl-B	04-01-1996 1300 SW
Conductivity	1069	1	umhos/cm	SM2510-B	04-03-1996 0700 SW
Hardness, Total	453	----	mg/l as $CaCO_3$	SM2340-B	04-11-1996 1600 BR
Iron, Total	5.09	0.03	mg/l	EPA 236.1	03-28-1996 0815 MK
Iron, Dissolved	<0.03	0.03	mg/l	EPA 236.1	04-03-1996 0800 MK
Magnesium, Total	49	1.2	mg/l	EPA 242.1	03-28-1996 1330 MK
Manganese, Total	0.19	0.04	mg/l	EPA 243.1	03-28-1996 0945 MK
Manganese, Dissolved	<0.04	0.04	mg/l	EPA 243.1	04-03-1996 0915 MK
Oil & Grease	<2	2	mg/l	SM5520-B	04-04-1996 0700 JC
pH	8.23	----	pH units	EPA 150.1	03-29-1996 0900 BR
Potassium, Total	4.3	0.6	mg/l	EPA 258.1	03-28-1996 1015 MK
Sodium, Total	96	0.6	mg/l	EPA 273.1	03-28-1996 1100 MK
Solids, Settleable	0.7	0.5	ml/l	EPA 160.5	03-27-1996 0915 MK
Solids, Total Dissolved	696	9	mg/l	EPA 160.1	03-29-1996 0930 JC
Solids, Total Suspended	254	5	mg/l	EPA 160.2	03-30-1996 0700 JC
Sulfate	189.0	20	mg/l	EPA 375.4	04-11-1996 0700 SW
Cation/Anion Balance	12.1	----	%		04-11-1996 1600 BR

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stow for

Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.

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GH57

December 14, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

QC cw 5/20

Sample identification by NEICO

Kind of sample reported to us Water

SW-1

Sample taken at Wellington

Rec'd 1032 hr.
Sampled 0956 hr.

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled November 28, 1995

Date received November 28, 1995

Analysis report no. 59-15677

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst	
Alkalinity, Bicarbonate	435	5	mg/l	as HCO_3	SM2320-B	12-07-1995 0600	SW
Alkalinity, Carbonate	20	5	mg/l	as CO_3	SM2320-B	12-07-1995 0600	SW
Alkalinity, Total	390	5	mg/l	as $CaCO_3$	EPA 310.1	12-07-1995 0600	SW
Anions	35.4	----	meq/l		---------	---------- -----	--
Calcium, Total	194	1	mg/l		EPA 215.1	11-29-1995 1330	MK
Calcium, Dissolved	179	1	mg/l		EPA 215.1	11-29-1995 1330	MK
Cations	37.5	----	meq/l		---------	---------- -----	--
Chloride	83	1	mg/l		SM4500-Cl-B	12-01-1995 1030	SW
Hardness, Total	1024	10	mg/l	as $CaCO_3$	SM2340-B	11-29-1995 1330	MK
Iron, Total	0.7	0.1	mg/l		EPA 236.1	11-29-1995 0945	MK
Iron, Dissolved	<0.1	0.1	mg/l		EPA 236.1	11-29-1995 0945	MK
Magnesium, Total	131	1	mg/l		EPA 242.1	11-29-1995 1430	MK
Magnesium, Dissolved	121	1	mg/l		EPA 242.1	11-29-1995 1430	MK
Manganese, Total	0.2	0.1	mg/l		EPA 243.1	11-29-1995 1015	MK
Manganese, Dissolved	0.1	0.1	mg/l		EPA 243.1	11-29-1995 1015	MK
Oil & Grease	<5	5	mg/l		SM5520-B	11-28-1995 0900	JC
Potassium, Total	6	1	mg/l		EPA 258.1	11-29-1995 1045	MK
Potassium, Dissolved	6	1	mg/l		EPA 258.1	11-29-1995 1045	MK
Sodium, Total	392	1	mg/l		EPA 273.1	11-29-1995 1115	MK
Sodium, Dissolved	371	1	mg/l		EPA 273.1	11-29-1995 1115	MK
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	11-28-1995 1130	MK
Solids, Total Dissolved	2390	10	mg/l		EPA 160.1	11-29-1995 0730	JC
Solids, Total Suspended	10	5	mg/l		EPA 160.2	11-29-1995 1230	JC
Sulfate	1211	1	mg/l		EPA 375.4	12-11-1995 1100	SW

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

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October 4, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

SH5/7
QC cw 5/20

Sample identification by
NEICO

Kind of sample reported to us Water

SW-1 Surface Water CVR

Rec'd 0740 hr.
Sampled NA

Sample taken at Wellington

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled September 14, 1995

Date received September 15, 1995

Analysis report no. 59-15418

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst		
Alkalinity, Bicarbonate	325	5	mg/l	as HCO_3	SM2320-B	09-22-1995	1200	SW
Alkalinity, Carbonate	10	5	mg/l	as CO_3	SM2320-B	09-22-1995	1200	SW
Alkalinity, Total	280	5	mg/l	as $CaCO_3$	EPA 310.1	09-22-1995	1200	SW
Anions	20.9	----	meq/l		---------	----------	-----	--
Calcium, Total	133	1	mg/l		EPA 215.1	09-20-1995	0745	MK
Calcium, Dissolved	132	1	mg/l		EPA 215.1	09-28-1995	1200	MK
Cations	22.6	----	meq/l		---------	----------	-----	--
Chloride	54	1	mg/l		SM4500-Cl-B	09-28-1995	0815	SW
Hardness, Total	645	10	mg/l	as $CaCO_3$	SM2340-B	09-20-1995	0745	MK
Iron, Total	1.0	0.1	mg/l		EPA 236.1	09-19-1995	0600	MK
Iron, Dissolved	0.2	0.1	mg/l		EPA 236.1	09-28-1995	0745	MK
Magnesium, Total	76	1	mg/l		EPA 242.1	09-20-1995	1100	MK
Magnesium, Dissolved	76	1	mg/l		EPA 242.1	09-28-1995	1300	MK
Manganese, Total	<0.1	0.1	mg/l		EPA 243.1	09-19-1995	0815	MK
Manganese, Dissolved	<0.1	0.1	mg/l		EPA 243.1	09-28-1995	0915	MK
Oil & Grease	<5	5	mg/l		SM5520-B	09-20-1995	0800	JC
Potassium, Total	5	1	mg/l		EPA 258.1	09-19-1995	0945	MK
Potassium, Dissolved	5	1	mg/l		EPA 258.1	09-28-1995	1000	MK
Sodium, Total	223	1	mg/l		EPA 273.1	09-19-1995	1200	MK
Sodium, Dissolved	204	1	mg/l		EPA 273.1	09-28-1995	1030	MK
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	09-14-1995	1615	SW
Solids, Total Dissolved	1330	10	mg/l		EPA 160.1	09-15-1995	0800	JC
Solids, Total Suspended	35	5	mg/l		EPA 160.2	09-18-1995	0730	JC
Sulfate	660	1	mg/l		EPA 375.4	09-29-1995	1245	SW

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stow

Manager, Huntington Laboratory

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October 4, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

Sample identification by
NEICO

Kind of sample reported to us Water

SW-1 Surface Water CVR

Sample taken at Wellington

Rec'd 0740 hr.
Sampled NA

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled September 14, 1995

Date received September 15, 1995

Analysis report no. 59-15418

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Cation/Anion Balance	3.8	----	%		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

E.I.S. Hydrology
Field Measurements Form

Date 3/6/95 BX 5/7 Station # [illegible]

QC CW 5/20

Company _____

Time 13:15

Flow/Depth [illegible] /sec 36,000 gal/min

pH 8.18

Specific Conductivity 3.38

Water Temperature 57.7

Air Temperature [illegible]

Dissolved Oxygen 8

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point _____

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No___

Pump Reading _____

Comments _____

_____

Field Monitor _____

When Sample or Measurements Not Taken:

Reason: _____

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

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March 22, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

CHECK
QC
cw
5/20

Sample identification by
NEICO

Kind of sample reported to us: Water

Sample taken at: Wellington

Sample taken by: EIS

Date sampled: March 6, 1995

Date received: March 6, 1995

SW-1

Rec'd 1730 hr.
Sampled 1315 hr.

NOTE: Dissolved metals filtered at Lab. Possible matrix interference with Selenium. Due to high TSS, sample would not balance.

Analysis report no. 59-14819

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	395	5	mg/l as HCO_3	SM2320-B	03-07-1995 0800 S
Alkalinity, Carbonate	20	5	mg/l as CO_3	SM2320-B	03-07-1995 0800 S
Alkalinity, Total	355	5	mg/l as $CaCO_3$	EPA 310.1	03-07-1995 0800 S
Anions	24.70	----	meq/l	---------	---------- ----- --
Boron, Total	0.5	0.1	mg/l	EPA 212.3	03-09-1995 1140 L
Boron, Dissolved	0.4	0.1	mg/l	EPA 212.3	03-09-1995 1140 L
Calcium, Total	143	1	mg/l	EPA 215.1	03-14-1995 1600 D
Cations	30.90	----	meq/l	---------	---------- ----- --
Chloride	100	1	mg/l	SM4500-Cl-B	03-07-1995 1200 S
Conductivity	2150	1	umhos/cm	SM2510-B	03-13-1995 0800 S
Hardness, Total	850	10	mg/l as $CaCO_3$	SM2340-B	03-14-1995 1600 D
Iron, Total	3.9	0.1	mg/l	EPA 236.1	03-13-1995 1430 D
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-09-1995 1500 D
Magnesium, Total	120	1	mg/l	EPA 242.1	03-15-1995 0715 D
Manganese, Total	0.2	0.1	mg/l	EPA 243.1	03-14-1995 0900 D
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-09-1995 1600 D
Oil & Grease	<5	5	mg/l	EPA 413.1	03-07-1995 1030 L
pH	8.20	----	pH units	EPA 150.1	03-06-1995 1715 D
Potassium, Total	7	1	mg/l	EPA 258.1	03-14-1995 1200 D
Selenium, Total	<0.01	0.01	mg/l	EPA 270.2	03-10-1995 1330 D
Selenium, Dissolved	<0.01	0.01	mg/l	EPA 270.2	03-08-1995 1130 D
Sodium, Total	320	1	mg/l	EPA 273.1	03-14-1995 1300 D
Solids, Settleable	1.0	0.5	ml/l	EPA 160.5	03-07-1995 0730 S
Solids, Total Dissolved	1640	10	mg/l	EPA 160.1	03-07-1995 0700 S

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout CO

Manager, Huntington Laboratory

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March 22, 1995

GH57

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

Sample identification by
NEICO

Kind of sample reported to us	Water	SW-1
Sample taken at	Wellington	Rec'd 1730 hr. Sampled 1315 hr.
Sample taken by	EIS	NOTE:Dissolved metals filtered at Lab. Possible matrix interference with Selenium. Due to high TSS, sample would not balance.
Date sampled	March 6, 1995	
Date received	March 6, 1995	

Analysis report no. 59-14819

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Solids, Total Suspended	240	10	mg/l	EPA 160.2	03-10-1995 1440 LM
Sulfate	710	1	mg/l	EPA 375.4	03-09-1995 1300 SW
Cation/Anion Balance	11.10	----	%		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout CD

Manager, Huntington Laboratory

E.I.S. Hydrology
Field Measurements Form

Date 11/29/94 CXXXX Station # CUR SW 1

Company Genwm

Time 12:30

Flow/Depth > 10 cfs ✓

pH 7.78 X

Specific Conductivity 4.58 x 1000 ✓

Water Temperature 2°C ✓

Air Temperature -3°C

Dissolved Oxygen 8.4 ppm ✓

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point Near Bridge

Appearance of Water: Clear___ Milky___ Cloudy ✓ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading___

Comments___

Field Monitor D. S.

When Sample or Measurements Not Taken:

Reason: ___

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

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December 8, 1994

GENWAL COAL CO.
P.O. BOX 1201
HUNTINGTON UTAH 84528

C#5/7
QC
CW 5/20

Sample identification by
GENWAL COAL CO.

Kind of sample reported to us Water

SW-1

Rec'd 1530 hr.
Sampled 1230 hr.

Sample taken at Wellington Loadout

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled November 29, 1994

Date received November 29, 1994

Analysis report no. 59-14616

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst	
Alkalinity, Bicarbonate	427	1	mg/l	as HCO_3	SM2320-B	12-01-1994 1455	LS
Alkalinity, Carbonate	<1	1	mg/l	as CO_3	SM2320-B	12-01-1994 1455	LS
Alkalinity, Total	350	1	mg/l	as $CaCO_3$	EPA 310.1	12-01-1994 1455	LS
Anions	30.20	----	meq/l		---------	---------- -----	--
Calcium, Total	200	5	mg/l		EPA 215.1	12-07-1994 1430	DW
Calcium, Dissolved	187	5	mg/l		EPA 215.1	12-07-1994 1430	DW
Cations	34.50	----	meq/l		---------	---------- -----	--
Chloride	84	1	mg/l		SM4500-Cl-B	12-01-1994 0800	LS
Hardness, Total	985	10	mg/l	as $CaCO_3$	SM2340-B	12-07-1994 1430	DW
Iron, Total	2.8	0.2	mg/l		EPA 236.1	12-07-1994 0800	DW
Iron, Dissolved	<0.2	0.2	mg/l		EPA 236.1	12-07-1994 0800	DW
Magnesium, Total	118	2	mg/l		EPA 242.1	12-08-1994 0930	DW
Magnesium, Dissolved	112	2	mg/l		EPA 242.1	12-08-1994 0930	DW
Manganese, Total	0.2	0.2	mg/l		EPA 243.1	12-07-1994 0900	DW
Manganese, Dissolved	<0.2	0.2	mg/l		EPA 243.1	12-07-1994 0900	DW
Oil & Grease	<5	5	mg/l		EPA 413.1	12-02-1994 0730	LM
Potassium, Total	10	5	mg/l		EPA 258.1	12-07-1994 1200	DW
Potassium, Dissolved	10	5	mg/l		EPA 258.1	12-07-1994 1200	DW
Sodium, Total	340	5	mg/l		EPA 273.1	12-07-1994 1130	DW
Sodium, Dissolved	340	5	mg/l		EPA 273.1	12-07-1994 1130	DW
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	11-29-1994 0800	LS
Solids, Total Dissolved	2201	10	mg/l		EPA 160.1	11-29-1994 0940	LS
Solids, Total Suspended	123	4	mg/l		EPA 160.2	12-01-1994 1215	LM
Sulfate	1000	1	mg/l		EPA 375.4	12-07-1994 1000	LS
Cation/Anion Balance	6.6		%				

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Terry Stout

Manager, Huntington Laboratory

Inter-Mountain Laboratories, Inc.

QC MB 6/17/94

2506 W Main Street
Farmington, New Mexico 87401

Client:	**GENWAL COAL CO.**		
Project:	Castle Valley Resources (CVR)	Date Reported:	05/13/94
Sample ID:	SW-1	Date Sampled:	04/13/94
Laboratory ID:	W00272	Time Sampled:	1300
Sample Matrix:	Water	Date Received:	04/18/94
Condition:	Cool/Intact		

CM 6/16

Parameter	Analytical Result	Units		Units
Lab pH	8.3	s.u.		
Lab Conductivity @ 25° C	2,840	umhos/cm		
Total Dissolved Solids @ 180°C	2,240	mg/L		
Total Dissolved Solids (Calc)	2,070	mg/L		
Total Alkalinity as CaCO3	402	mg/L		
Total Hardness as CaCO3	911	mg/L		
Total Suspended Solids	10	mg/L		
Settleable Solids	<0.1	mg/L		
Bicarbonate as HCO3	491	mg/L	8.05	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Chloride	125	mg/L	3.53	meq/L
Sulfate	1,070	mg/L	22.30	meq/L
Dissolved Metals				
Calcium	157	mg/L	7.83	meq/L
Magnesium	126	mg/L	10.39	meq/L
Potassium	7.0	mg/L	0.18	meq/L
Sodium	341	mg/L	14.83	meq/L
Cations			33.23	meq/L
Anions			33.88	meq/L
Cation/Anion Difference			0.96	%

Need FLOW!

SW-1 4-13-94

SW-2 4-13-94

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reviewed by

Inter·Mountain Laboratories, Inc.

QC MB 6-17-94

2506 W Main Street
Farmington, New Mexico 87401

Client:	**GENWAL COAL CO.**		
Project:	Castle Valley Resources (CVR)	Date Reported:	05/13/94
Sample ID:	SW-1	Date Sampled:	04/13/94
Laboratory ID:	W00272	Time Sampled:	1300
Sample Matrix:	Water	Date Received:	04/18/94
Condition:	Cool/Intact		

Parameter	Dissolved Analytical Result	Total Analytical Result	Units
Trace Metals			
Iron	<0.05	1.06	mg/L
Manganese	0.02	0.37	mg/L
Calcium	157 Dup	138 263	mg/L
Sodium	341 Dup	296 266	mg/L
Potassium	7.0 Dup	6.7 265	mg/L
Magnesium	126 Dup	101 264	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reviewed by [signature]

Mountain States Analytical
The Quality Solution

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout

Sample ID: SW 1
Matrix: Waste Water

M3AI Sample: 16576
M3AI Group: 3988
Date Reported: 03/14/94
Discard Date: 04/13/94
Date Submitted: 03/10/94
Date Sampled: 03/09/94
Collected by: LJ
Purchase Order
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0215	Solids, Settleable Method: EPA 160.5	1.2	mg/l	(1) 0.2
0368	Nitrogen, Nitrate Method: EPA 353.3	0.94	mg/l	0.05
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	ND	mg/l	1

(1) Result is in mL/L/hr.

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 972-0050 FAX (801) 972-6278

Analytical Report

Mountain States Analytical
The Quality Solution

SH 5/7
QC cw 5/20

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout Surface Waters

Sample ID: SW 1
Matrix: Waste Water

MSAI Sample: 16462
MSAI Group: 3959
Date Reported: 03/21/94
Discard Date: 04/20/94
Date Submitted: 03/07/94
Date Sampled: 03/04/94
Collected by: LJ
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
7258	Manganese by ICP Method: SW-846 6010A	0.16	mg/l	0.02
CATIO	Cations-Mg,Ca,K,Na,Fe Method: ASTM D-596-83			
	Magnesium	7.80	meq/l	0.01
	Calcium	8.00	meq/l	0.01
	Potassium	0.15	meq/l	0.01
	Sodium	9.32	meq/l	0.01
	Iron	0.046	meq/l	0.001
0009	Cation/Anion Balance Calculation Method: ASTM D-596-83			
	Cations % of Balance	25.3	Meq/l	0.5
	Anions % of Balance	28.4	Meq/l	0.5
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	326	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	92	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	1,730	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	900	mg/l	5
0231	Oil and Grease, Gravimetric Method: EPA 413.1	ND	mg/l	2

Mountain States Analytical
The Quality Solution

Genwal Coal Company

MSAI Sample: 16462
MSAI Group: 3959

Sample ID: SW 1

Test	Analysis	Results as Received	Units	Limit of Quantitation
ANION	Anions-CaC03,SO4,Cl,F,N03			
	Method: ASTM D-596-83			
	Bicarbonate	6.51	meq/l	0.04
	Sulfate	19.7	meq/l	0.04
	Chloride	2.10	meq/l	0.05
	Fluoride	0.016	meq/l	0.005

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Mountain States Analytical
The Quality Solution

GH 5/7

Cation Anion Balance Spreadsheet

Project: Genwal
Sample #: 16462
Group #: 3959
Analyst: RA/GS
Date: 03/17/94

	Cations	mg/l	meq/l
1	Calcium	160.4	8.00396
2	Magnesium	94.86	7.80318
3	Iron	0.8632	0.04637
4	Sodium	214.2	9.31770
5	Potassium	5.813	0.14864
	Cation Total =		25.319853

	Anions	mg/l	meq/l
1	Chloride	74.4	2.09882
2	Bicarbonate	326	6.51444
3	Sulfate	947	19.71654
4	Fluoride	0.307	0.01616
5	Nitrate	0.94	0.01516
	Anion Total =		28.361122

Percentage Error = 11.33%

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Analytical Report

Mountain States Analytical
The Quality Solution

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout Surface Waters

Sample ID: SW 1 diss
Matrix: Waste Water

MSAI Sample: 16535
MSAI Group: 3959
Date Reported: 03/21/94
Discard Date: 04/20/94
Date Submitted: 03/07/94
Date Sampled: 03/04/94
Collected by: LJ
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
SINCE 1908
Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE T
P.O. BOX 1020, HUNTINGTON, UT 845
TEL: (801) 653-23
FAX: (801) 653-24

December 22, 1993

GENWAL COAL CO.
P.O. BOX 1201
HUNTINGTON UTAH 84528

Sample identification by
GENWAL COAL CO.

Kind of sample reported to us Water

SW-1

Sample taken at Wellington Loadout

Rec'd 0946 hr.
Sampled 0955 hr.

Sample taken by Genwal

Date sampled December 11, 1993

Date received December 13, 1993

Analysis report no. 59-13763

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Acidity	<10	1	mg/l	$CaCO_3$ 2310 B	12-15-1993 0955 ED
Alkalinity, Bicarbonate	378	1	mg/l	$CaCO_3$ 4500 CO_2D	12-15-1993 1515 LS
Alkalinity, Carbonate	<1	1	mg/l	$CaCO_3$ 4500 CO_2D	12-15-1993 1515 LS
Alkalinity, Total	378	1	mg/l	$CaCO_3$ EPA 310.1	12-15-1993 1515 LS
Anions	28.60	----	meq/l	---------	---------- ----- --
Calcium	150.0	1	mg/l	EPA 215.1	12-16-1993 1045 DW
Cations	26.10	----	meq/l	---------	---------- ----- --
Chloride	82.0	1	mg/l	EPA 325.3	12-20-1993 1500 LM
Hardness, Total	848.0	1	mg/l	$CaCO_3$ 2340 B	12-16-1993 1045 DW
Iron	1.70	0.2	mg/l	EPA 236.1	12-17-1993 1030 DW
Iron, Dissolved	<0.20	0.2	mg/l	EPA 236.1	12-21-1993 1200 DW
Magnesium	115.00	1	mg/l	EPA 242.1	12-16-1993 1230 DW
Manganese	0.10	0.1	mg/l	EPA 243.1	12-16-1993 1600 DW
Oil & Grease	<5	5	mg/l	EPA 413.1	12-14-1993 1000 LM
Potassium	9.0	2	mg/l	EPA 258.1	12-16-1993 0830 DW
Sodium	210.0	1	mg/l	EPA 273.1	12-16-1993 1430 DW
Solids, Settleable	<0.5	.5	mg/l	EPA 160.5	12-13-1993 0800 LS
Solids, Total Dissolved	1211	10	mg/l	EPA 160.1	12-13-1993 0930 LM
Solids, Total Suspended	54	4	mg/l	EPA 160.2	12-16-1993 1430 LM
Sulfate	900	1	mg/l	EPA 375.4	12-17-1993 1200 LS
Cation/Anion Balance	-4.60	----	%	---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306

Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

October 27, 1993

CH 5/7

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

QC CW 5/20

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water — S-W-1

Sample taken at Wellington Wash Plant — Rec'd 0800 hr. Sampled 1430 hr.

Sample taken by CV Resources

Date sampled September 8, 1993

Date received September 9, 1993

Analysis report no. 59-13488

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst
Acidity	<1	1	mg/l	$CaCO_3$	EPA 305.1-M	09-20-1993 1500 LS
Alkalinity, Bicarbonate	350	2	mg/l	$CaCO_3$	EPA 310.1	09-20-1993 1500 LS
Alkalinity, Carbonate	0	1	mg/l	$CaCO_3$	EPA 310.1	09-20-1993 1500 LS
Alkalinity, Total	287	2	mg/l	$CaCO_3$	EPA 310.1	09-20-1993 1500 LS
Anions	24.49	----	meq/l		---------	---------- ----- --
Calcium	148.0	.03	mg/l		EPA 215.1	10-01-1993 1220 ED
Cations	21.67	----	meq/l		---------	---------- ----- --
Chloride	74.6	.5	mg/l		EPA 325.3	09-10-1993 1000 LM
Hardness, Total	674.3	.03	mg/l	$CaCO_3$	---------	10-01-1993 1220 ED
Iron	1.12	.05	mg/l		EPA 236.1	09-29-1993 1030 ED
Iron, Dissolved	0.17	.05	mg/l		EPA 236.1	10-04-1993 0920 ED
Magnesium	74.00	.007	mg/l		EPA 242.1	10-01-1993 1410 ED
Manganese	0.06	.03	mg/l		EPA 243.1	09-30-1993 1545 ED
Oil & Grease	0	1	mg/l		EPA 413.1	09-17-1993 1000 LM
Potassium	6.0	.1	mg/l		EPA 258.1	10-01-1993 1700 ED
Sodium	187.0	.2	mg/l		EPA 273.1	10-01-1993 1550 ED
Solids, Settleable	<0.5	.5	mg/l		EPA 160.5	09-09-1993 0830 LM
Solids, Total Dissolved	1961	14	mg/l		EPA 160.1	09-13-1993 0800 LM
Solids, Total Suspended	46	7	mg/l		EPA 160.2	09-13-1993 1410 LM
Sulfate	800	1	mg/l		EPA 375.4	09-24-1993 0800 LS
Cation/Anion Balance	-6.12	----	%		---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Manager, Huntington Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
SINCE 1908
Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

June 23, 1993

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

CH 5/7

QC
CW
5/20

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water

SW-1
Rec'd 1400 hr.
Sampled 1355 hr.

Sample taken at Wellington Wash Plant

Sample taken by CV Resources

Date sampled June 2, 1993

Date received June 2, 1993

Analysis report no. 59-13132

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Acidity	0	1	mg/l $CaCO_3$	EPA 305.1	06-15-1993 13:30 LS
Alkalinity, Bicarbonate	323	2	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Alkalinity, Carbonate	0	1	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Alkalinity, Total	265	2	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Anions	16.56	----	meq/l	---------	---------- ----- --
Calcium	84.0	.03	mg/l	EPA 215.1	06-23-1993 09:50 ED
Cations	17.45	----	meq/l	---------	---------- ----- --
Chloride	69.2	.5	mg/l	EPA 325.3	06-18-1993 12:00 LM
Hardness, Total	577	.03	mg/l $CaCO_3$	---------	06-23-1993 09:50 ED
Iron	2.39	.05	mg/l	EPA 236.1	06-17-1993 09:40 ED
Iron, Dissolved	0.22	.05	mg/l	EPA 236.1	06-22-1993 14:10 ED
Magnesium	89.20	.007	mg/l	EPA 242.1	06-21-1993 15:10 ED
Manganese	0.17	.03	mg/l	EPA 243.1	06-22-1993 10:05 ED
Oil & Grease	0.2	1	mg/l	EPA 413.1	06-11-1993 07:30 LM
pH	8.11	----	Units	EPA 150.1	06-02-1993 15:00 LM
Potassium	6.50	.1	mg/l	EPA 258.1	06-22-1993 12:20 ED
Sodium	134.00	.2	mg/l	EPA 273.1	06-23-1993 10:50 ED
Solids, Settleable	0.7	.5	mg/l	EPA 160.5	06-03-1993 08:00 LS
Solids, Total Dissolved	1091.0	14	mg/l	EPA 160.1	06-08-1993 08:30 LM
Solids, Total Suspended	272.0	7	mg/l	EPA 160.2	06-08-1993 08:30 LM
Sulfate	450.0	1	mg/l	EPA 375.4	06-14-1993 12:40 LS
Cation/Anion Balance	2.62	----	%	---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
SINCE 1908
Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

March 25, 1993

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

CH 5/7

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water

QC CW 5/20

SW-1
Rec'd. 1610 hr.
Sampled 0945 hr.

Sample taken at CVR

Sample taken by Larry Johnson

Date sampled March 3, 1993

Date received March 3, 1993

Analysis report no. 59-12920

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Acidity	0	1	mg/l $CaCO_3$	EPA 305.1	03-11-1993 13:00 LS
Alkalinity, Bicarbonate	473	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Alkalinity, Carbonate	0	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Alkalinity, Total	382	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Anions	51.87	----	meq/l	---------	---------- ----- --
Calcium	229.0	.1	mg/l	EPA 215.1	03-22-1993 13:20 ED
Cations	37.33	----	meq/l	---------	---------- ----- --
Chloride	86.4	.1	mg/l	EPA 325.3	03-16-1993 09:00 LM
Conductivity	3040	2	umhos/cm	EPA 120.1	03-04-1993 13:00 LS
Hardness, Total	1111	1	mg/l $CaCO_3$	---------	03-22-1993 13:20 ED
Iron	4.00	.02	mg/l	EPA 236.1	03-15-1993 09:45 ED
Iron, Dissolved	3.08	.02	mg/l	EPA 236.1	03-15-1993 09:45 ED
Magnesium	131.00	.01	mg/l	EPA 242.1	03-22-1993 12:55 ED
Manganese	0.38	.01	mg/l	EPA 243.1	03-15-1993 09:45 ED
Oil & Grease	0.6	1	mg/l	EPA 413.1	03-10-1993 13:00 LM
pH	8.00	----	Units	EPA 150.1	03-03-1993 17:00 LM
Potassium	10.00	.01	mg/l	EPA 258.1	03-22-1993 13:20 ED
Sodium	346.00	.01	mg/l	EPA 273.1	03-12-1993 12:55 ED
Solids, Settleable	0.0	.5	mg/l	EPA 160.5	03-04-1993 08:00 LS
Solids, Total Dissolved	2572.0	.5	mg/l	EPA 160.1	03-05-1993 09:00 LM
Solids, Total Suspended	764.0	.5	mg/l	EPA 160.2	03-05-1993 09:00 LM
Sulfate	2000.0	.1	mg/l	EPA 375.4	03-16-1993 10:00 LS
Cation/Anion Balance	-2.68	----	%	---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

Analytical Report

Mountain States Analytical

The Quality Solution

CX5,13

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project:

Date Samples Rec'd: 03/27/92
MSAI Group No.: 5595
Sample Matrix: Aqueous
Report Date: 04/10/92
P.O. Number:

LAB SAMPLE NO.	DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT	
25444	03/25/92	1115	SW-1	Calcium, FAA w/ww	206	mg/l
				Cation/Anion Balance	See Attach	---
				Iron, FAA w/ww	0.66	mg/l
				Magnesium, FAA w/ww	142	mg/l
				Manganese, FAA w/ww	0.17	mg/l
				Metals Digestion w/ww	Complete	---
				Metals Prep. FAA	Complete	---
				Potassium, FAA w/ww	8.97	mg/l
				Sodium, FAA w/ww	328	mg/l
				Alkalinity, Bicarbonate	324	mg/l CaCO3
				Alkalinity, Carbonate	0	mg/l CaCO3
				Chloride, Titrimetric w	68.0	mg/l
				Hardness w/ww	1,150	mg/l CaCO3
				OIL & GREASE, w/ww	<2	mg/l
				Solids, Dissolved TDS	2,120	mg/l
				SOLIDS, Settleable	0.1	ml/hr/l
				Solids, Suspended (TSS)	780	mg/l
				Sulfate, Turbidimetric	1,020	mg/l

Mountain States Analytical

The Quality Solution

CH5-13

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project: Castle Valley Quarterly

Date Samples Rec'd: 12/23/91
MSAI Group No.: 4953
Sample Matrix: Aqueous
Report Date: 01/07/92
P.O. Number:

LAB SAMPLE NO.	SAMP DATE	SAMPLE TIME	DESCRIPTION	ANALYSES PERFORMED	RESULT
23223	12/19/91	1426	SW-1 Upstream	Calcium, FAA w/ww	173 mg/l
				Cation/Anion Balance	See Attach
				Iron, FAA w/ww	0.75 mg/l
				Magnesium, FAA w/ww	98.7 mg/l
				Manganese, FAA w/ww	0.14 mg/l
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Potassium, FAA w/ww	7.22 mg/l
				Sodium, FAA w/ww	215 mg/l
				ALKALINITY, Bicarbonate	358 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	67.0 mg/l
				Hardness w/ww	1,600 mg/l CaCO3
				OIL & GREASE, w/ww	<2 mg/l
				Solids, Dissolved TDS	1,880 mg/l
				SOLIDS, Settleable	0.25 ml/hr/l
				Solids, Suspended (TSS)	68 mg/l
				Sulfate, Turbidimetric	1,120 mg/l

MOUNTAIN STATES ANALYTICAL

CH5-13

ANALYTICAL REPORT

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-

Date Samples Rec'd: 03/25/91
MSAI Group No.: 3307

ATTN: Mr. Candy Manzanares
Project:

LAB SAMPLE NO.	DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
17340	03/19/91	1035 GW	#13	ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	437 mg/l
				Hardness w/ww	2,900 mg/l CaCO3
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Solids, Dissolved TDS	16,100 mg/l
				Solids, Suspended (TSS)	2,050 mg/l
				Sulfate, Turbidimetric	7,940 mg/l
17341	03/19/91	1255 GW	#14	Calcium, FAA w/ww	358 mg/l
				Iron, FAA w/ww	0.36 mg/l
				Magnesium, FAA w/ww	656 mg/l
				Manganese, FAA w/ww	0.79 mg/l
				Potassium, FAA w/ww	10.6 mg/l
				Sodium, FAA w/ww	1,460 mg/l
				ALKALINITY, Bicarbonate	691 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	439 mg/l
				Hardness w/ww	3,900 mg/l CaCO3
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Solids, Dissolved TDS	10,900 mg/l
				Solids, Suspended (TSS)	23 mg/l
				Sulfate, Turbidimetric	4,650 mg/l
17342	03/19/91	905	SW1	Calcium, FAA w/ww	185 mg/l
				Iron, FAA w/ww	2.04 mg/l
				Magnesium, FAA w/ww	120 mg/l
				Manganese, FAA w/ww	0.21 mg/l
				Potassium, FAA w/ww	6.92 mg/l
				Sodium, FAA w/ww	350 mg/l
				ALKALINITY, Bicarbonate	336 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	105 mg/l
				Hardness w/ww	1,200 mg/l CaCO3
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Solids, Dissolved TDS	2,740 mg/l
				Solids, Suspended (TSS)	100 mg/l
				Sulfate, Turbidimetric	1,530 mg/l
17343	03/19/91	840	SW2	Calcium, FAA w/ww	190 mg/l

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-1
LOCATION:	UPPER PRICE RIVER
TYPE:	STREAM
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	03/12/98
Flow [cfs]	30.00
PH	8.41
Sp. Cond. [ohms]	1680.00
Temp. [C]	8.20
Diss. O [ppm]	8.60
Lab. Measurements [mg/l]	
Acidity	8.20
Al as HC03	377.00
Al as C03	<1
Al Total CaC03	309.00
Anions meg/l	29.10
Calcium	194.00
Cations meg/l	30.70
Chloride	64.00
Hard. Total	962.00
Iron	0.48
Iron Diss.	0.14
Magnesium	116.00
Manganese, Diss.	0.056
Oil & Grease	ND
Potassium, Total	8.40
Sodium, Total	258.00
Solids sett.	<0.1
Sol. Tot. Diss.	1930.00
Sol. Tot. Sus.	23.00
Sulfate	1010.00
Cat/An Balance	2.70

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-1
Location: Upper Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/2/97
Flow (cfs)	52.00	275.00	50.00	50.00
PH	8.63	9.78	8.38	8.37
Sp. Cond. [ohms]	1,170.00	9,320.00	1,478.00	2,460.00
Temp. [C]	7.00	12.00	19.00	4.00
Diss. O [ppm]	7.40	6.00	6.20	8.00
Lab. Meas. [mg/l]				
Acidity			8.10	8.20
Al as HC03	240.00	285.00	339.00	408.00
Al as C03	<1	7.80	<1	<1
Al Total CaC03	197.00	247.00	278.00	335.00
Anions [meq/l]	11.50	7.93	20.20	33.00
Calcium	76.90	71.10	155.00	222.00
Cations [meq/l]	11.40	8.29	22.40	33.50
Chloride	30.00	14.20	41.00	112.00
Hard. Total	386.00	325.00	750.00	1,090.00
Iron	0.47	17.50	0.84	0.60
Iron, Diss.	0.44	0.47	0.10	0.39
Magnesium	47.00	0.51	0.09	130.00
Manganese, Diss.	0.05	0.02	<.005	0.147
Oil & Grease	<1	<1	<0.5	<1
Potassium, Total	3.96	2.55	4.80	6.90
Sodium, Total	83.40	39.90	167.00	264.00
Sol. Set.	3.00	1.49	0.10	<0.1
Sol. Tot. Diss.	722.00	456.00	1,700.00	2,050.00
Sol. Tot. Sus.	2,650.00	1,590.00	111.00	10.00
Sulfate	321.00	125.00	645.00	1,110.00
Cat/An Balance	0.09	2.22	5.20	0.720

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-1
Location: Upper Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow (cfs)	102.60	350.00	[illegible]	[illegible]	151.37
PH	6.94	[illegible]	8.09	7.89	7.53
Sp. Cond. [ohms]	1,300.00	971.00	260.00	3,240.00	1,442.75
Temp. [C]	[illegible]	11.00	14.00	6.00	9.00
Diss. O [ppm]	6.00	8.00	8.00	11.00	8.25
Lab. Meas. [mg/l]					
Acidity	[illegible].00	0.00	0.00	0.00	0.00
Al as HC03	298.00	288.00	303.00	470	296.33
Al as C03	9.00	9.00	19.00	<1.00	12.33
Al Total CaC03	260.00	251.00	280.00	380.00	292.75
Anions [meq/l]	10.40	10.40	29.70	42.40	23.23
Calcium	101.00	115.00	179.00	260.00	163.75
Cations [meq/l]	13.20	13.10	29.30	41.30	24.23
Chloride	44.00	25.00	48.00	76.40	48.35
Hard. Total	453.00	499.00	900.00	1,270.00	780.50
Iron	5.09	7.94	0.40	0.26	3.42
Iron, Diss.	<0.03	<0.03	<0.1	0.00	<0.03
Magnesium	[illegible]9.00	51.00	110.00	150.00	90.00
Manganese, Diss.	<0.04	<0.04	<0.1	0.22	<0.04
Oil & Grease	<2	<2	<2	<1.0	<2
Potassium, Total	4.30	4.70	6.00	8.60	5.90
Sodium, Total	96.00	73.00	257.00	360.00	196.50
Sol. Set.	0.70	0.70	<0.5	<0.1	0.70
Sol. Tot. Diss.	696.00	658.00	1,940.00	2,800.00	1,523.50
Sol. Tot. Sus.	254.00	309.00	18.00	31.00	153.00
Sulfate	189.00	224.00	1,093.00	1,560.00	766.50
Cat/An Balance	12.10	11.70	-0.70	1.32	6.11

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-1
Location: Upper Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/28/95	Mean
Flow (cfs)	10.20	>10	>10	3.18	6.69
PH	8.18	7.76	7.93	6.83	7.68
Sp. Cond. [ohms]	3,380.00	1,620.00	3,120.00	2,390.00	2,627.50
Temp. [F]	51.70	51.00	62.60	50.00	53.83
Diss. O [ppm]	8.00	7.20	9.80	6.00	7.75
Lab. Meas. [mg/l]					
Acidity	0.00	0.00	0.00	0.00	0.00
Al as HC03	395.00	385.00	325.00	435.00	385.00
Al as C03	20.00	10.00	10.00	20.00	15.00
Al Total CaC03	355.00	335.00	280.00	390.00	340.00
Anions [meg/l]	24.70	12.10	20.90	35.40	23.28
Calcium	143.00	146.00	133.00	194.00	154.00
Cations [meg/l]	30.90	15.60	22.60	37.50	26.65
Chloride	100.00	32.00	54.00	83.00	67.25
Hard. Total	850.00	600.00	645.00	1,024.00	779.75
Iron	3.90	8.50	1.00	0.70	3.53
Iron, Diss.	<0.1	<0.1	0.20	<0.1	0.20
Magnesium	120.00	57.00	76.00	131.00	96.00
Manganese	<0.1	0.30	<0.1	0.20	0.25
Oil & Grease	<5	<5	<5	<5	<5
Potassium	7.00	3.00	5.00	6.00	5.25
Sodium	320.00	84.00	223.00	392.00	254.75
Sol. Set.	1.00	1.50	<0.5	<0.5	1.25
Sol. Tot. Diss.	1,640.00	680.00	1,330.00	2,390.00	1,510.00
Sol. Tot. Sus.	240.00	770.00	35.00	10.00	263.75
Sulfate	710.00	220.00	660.00	1,211.00	700.25
Cat/An Balance	11.10	12.60	3.80		0.17

Wellington Prep
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WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-1
Location: Upper Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/04/94	04/13/94	10/12/94	11/29/94	Mean
Flow (cfs)	4.54	3.76	>10	>10	4.15
PH	7.90	7.39	6.83	7.78	7.48
Sp. Cond. [ohms]	2,200.00	3,410.00	4,270.00	4,580.00	3,615.00
Temp. [F]	41.18	55.40	53.60	35.60	46.45
Diss. O [ppm]	14.90	8.00	8.90	8.40	10.05
Lab. Meas. [mg/l]					
Acidity	0.00	0.00	0.00	0.00	0.00
Al as HC03	326.00	491.00	500.00	427.00	436.00
Al as C03	0.00	0.00	0.00	0.00	0.00
Al Total CaC03	326.00	402.00	409.00	350.00	371.75
Anions [meg/l]	28.40	33.88	42.50	30.20	33.75
Calcium	160.40	138.00	182.00	200.00	170.10
Cations [meg/l]	25.30	33.23	38.10	34.50	32.78
Chloride	74.40	125.00	110.00	84.00	98.35
Hard. Total	900.00	911.00	1,000.00	985.00	949.00
Iron	0.86	1.06	1.40	2.80	1.53
Iron, Diss.	0.00	<0.05	<0.2	<0.2	0.00
Magnesium	94.86	101.00	132.00	118.00	111.47
Manganese	0.16	0.37	<0.02	0.20	0.24
Oil & Grease	0.00	1.00	<5	<5	0.50
Potassium	5.81	6.70	9.00	10.00	7.88
Sodium	214.20	296.00	418.00	340.00	317.05
Sol. Set.	1.20	<0.1	<0.5	<0.5	1.20
Sol. Tot. Diss.	1,730.00	2,070.00	2,740.00	2,201.00	2,185.25
Sol. Tot. Sus.	92.00	10.00	63.00	123.00	72.00
Sulfate	947.00	1,070.00	1,500.00	1,000.00	1,129.25

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-1
Location: Upper Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/08/92	06/16/92	09/29/92	12/04/92	Mean
Flow [CFS]	N/A	>10	1.25	>10	1.25
PH	7.17	8.70	8.80	7.80	8.12
Sp. Cond. [ohms]	2,100.00	2,400.00	2,500.00	1,640.00	2,160.00
Temp. [F]	49.10	73.00	64.00	38.00	56.03
Diss. O [ppm]	11.00	8.00	9.00	7.00	8.75
Lab. Meas. [mg/l]					
Al as HCO3	324.00	316.00	522.00	390.00	388.00
Al as C03	0.00	13.00	0.00	0.00	3.25
Al Total		272.00	428.00	320.00	340.00
Anions [meg/l]	28.40	43.24	45.45	25.14	35.56
Calcium	206.00	218.90	245.10	255.00	231.25
Cations [meg/l]	36.40	39.38	39.25	29.45	36.12
Chloride	68.00	80.00	125.00	75.00	87.00
Hard. Total	1,150.00	1,107.00	1,326.00	1,035.00	1,154.50
Iron	0.66	0.26	3.50	0.69	1.28
Magnesium	142.00	136.10	173.50	96.80	137.10
Manganese	0.17	0.00	0.23	0.20	0.15
Potassium	8.97	1.52	35.91	6.07	13.12
Sodium	328.00	400.80	275.30	200.00	301.03
Sol. Set.	0.10	0.00	0.00	0.00	0.03
Sol. Tot. Diss.	2,120.00	1,660.00	2,900.00	1,540.00	2,055.00
Sol. Tot. Sus.	780.00	16.00	57.00	93.00	236.50
Sulfate	1,020.00	1,700.00	1,600.00	800.00	1,280.00
Oil and Grease	<2.00			0.00	0.00
Cat/An Balance				7.89	7.89

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92SW-1

1992 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-1

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	N/A	N/A	N/A	N/A
PH	-	7.17			
SPECIFIC COND.	umhos/cm	2100			
TEMP.	o C	9.5			
DISSOLVED OXYGEN	ppm	11			
TOTAL SETTLEABLE SOLIDS	mg/l	0.1			
TOTAL SUSPENDED SOLIDS	mg/l	780			
TOTAL DISSOLVED SOLIDS	mg/l	2120			
TOTAL HARDNESS	mg/l	1150			
CARBONATE	mg/l	0			
BICARBONATE	mg/l	324			
CALCIUM	mg/l	206			
CHLORIDE	mg/l	68.0			
IRON	mg/l	0.66			
MAGNESIUM	mg/l	142			
TOTAL MANGANESE	mg/l	0.17			
POTASSIUM	mg/l	8.97			
SODIUM	mg/l	328			
SULFATE	mg/l	1020			
OIL AND GREASE	mg/l	<2			
CATIONS	meg/l	36.4			
ANIONS	meg/l	28.4			

SW-1

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-1

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	N/A	N/A	N/A	N/A
PH	-	7.44	7.57	7.18	7.43
SPECIFIC COND.	umhos/cm	1700	2600	2700	1400
TEMP.	o C	3.4	17.7	15.1	2.2
DISSOLVED OXYGEN	ppm	8	6	6	12
TOTAL SETTLEABLE SOLIDS	mg/l	0.3	<0.2		0.25
TOTAL SUSPENDED SOLIDS	mg/l	100	16	55	68
TOTAL DISSOLVED SOLIDS	mg/l	2740	2150	2310	1880
TOTAL HARDNESS	mg/l	1200	920		1600
CARBONATE	mg/l	0	0	0	0
BICARBONATE	mg/l	336	235	305	358
CALCIUM	mg/l	185	162	79.9	173
CHLORIDE	mg/l	105	64.5	62	67.0
IRON	mg/l	2.04	0.5	0.92	0.75
MAGNESIUM	mg/l	120	149	105	98.7
TOTAL MANGANESE	mg/l	0.21	0.04	0.11	0.11
POTASSIUM	mg/l	6.92	6.11	16	7.22
SODIUM	mg/l	350	390	401	215
SULFATE	mg/l	1530	864	1150	1120
OIL AND GREASE	mg/l	<2.0	10.6	<2	<2
CATIONS	meg/l	34.6	37.5	30.5	29.5
ANIONS	meg/l	40.3	25.7	30.7	32.1

90SW-1

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-1

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	N/A	N/A	N/A	N/A
PH	-	9.35	8.5	8.95	8.03
SPECIFIC COND.	umhos/cm	1400	2700	1900	1000
TEMP.	o C	6.0	21	25	0.1
DISSOLVED OXYGEN	ppm	8	6	11	8
TOTAL SETTLEABLE SOLIDS	mg/l	0.5	<.1	0.5	0.4
TOTAL SUSPENDED SOLIDS	mg/l	54	16.5	45	216
TOTAL DISSOLVED SOLIDS	mg/l	7260	2480	2360	1130
TOTAL HARDNESS	mg/l	1300	1250	1400	680
CARBONATE	mg/l	0	24.7	9.6	0
BICARBONATE	mg/l	297	222	278	296
CALCIUM	mg/l	141	140	229	154
CHLORIDE	mg/l	47.6	84.4	64.5	38
IRON	mg/l	0.30	0.12	0.28	4.66
MAGNESIUM	mg/l	72	112	136	63.1
TOTAL MANGANESE	mg/l	0.11	0.01	0.08	0.15
POTASSIUM	mg/l	6.74	5.94	9.53	5.16
SODIUM	mg/l	200	491	365	134
SULFATE	mg/l	898	1450	1510	547
OIL AND GREASE	mg/l	5.51	<.2	2	<.2
CATIONS	meg/l	21.9	37.7	38.8	19.1
ANIONS	meg/l	24.9	35.8	38.1	17.3

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WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 1

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

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1988 WATER MONITORING DATA

SH 5/7

SAMPLE LOCATION: SW - 1 * Parameters not available from lab

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				?						8000		
pH	standard				7.93						8.51		
Temp	o C				8						19		
Conductivity	umhos/cm				1500						4300		
Diss. Oxygen	ppm				>15						5.5		
Aluminum	mg/l				<.1						<0.10		
Arsenic	mg/l				<.01						<0.004		
Barium	mg/l				<.01						<0.10		
Bicarbonate	mg/l				263						415		
Boron	mg/l				0.2						0.46		
Cadmium	mg/l				<.01						<0.005		
Calcium	mg/l				143						242		
Carbonate	mg/l				0						0		
Chloride	mg/l				51.1						105		
Chromium	mg/l				<.01						<0.05		
Copper	mg/l				<.01						<0.03		
Flouride	mg/l				0.58						0.26		
Hardness	mg/l				688						1500		
Iron Total	mg/l				16.72						0.1		
Lead	mg/l				<.01						<0.05		
Magnesium	mg/l				102						218		
Manganese	mg/l				0.011						0.03		
Mercury	mg/l				<.0002						<0.001		
Molybdenum	mg/l				<.01						<0.10		
Nickel	mg/l				<.01						<0.05		
Ammonia	mg/l				0.72						0.41		
Nitrate	mg/l				0.75						<0.05		
Nitrite	mg/l				1.36						2.21		
Oil & Grease	mg/l				1.29						<2.0		
Phosphate	mg/l				0.19						0.32		
Potassium	mg/l				4.7						10.4		
Selenium	mg/l				<.002						<0.004		
Sodium	mg/l				113						486		
Sulfate	mg/l				690						2010		
Sulfide	mg/l				<.1						<0.4		
TDS	mg/l				1180						2600		
TSS	mg/l				1110						*		
Sett. Solids	mg/l				0.4						*		
Zinc	mg/l				<.01						<0.01		
C - A Balance	meq/l				0.74						*		

SH 5/7

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1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-1

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Flow (cfs)			200.		300.							<100.
pH			8.15		8.3							8.81
Temp. (°C)												3.
Conductiv.			970.		765.							1700.
Aluminum			7.21		1.05							
Arsenic			0.010		0.001							
Barium			0.26		0.10							
Bicarbon.			279.		246.							454.
Boron			0.19		0.06							
Cadmium			<0.001		<0.005							
Calcium			82.		79.							98.2
Carbonate			<0.01		0.							0.
Chloride			24.7		16.							60.1
Chromium			0.040		<0.01							
Copper			0.06		<0.01							
Fluoride			0.19		0.25							
Hardness			366.		366.							1220.
Iron			16.30		7.10							0.68
Lead			0.013		<0.02							
Magnesium			38.60		41.							151.
Manganese			0.63		0.15							0.35
Mercury			<0.0002		<0.0002							
Molybdenum			0.03		<0.05							
Nickel			<0.01		<0.02							
Ammonia			0.49		0.21							
Nitrate			0.69		0.40							
Nitrite			0.02									
Oil & Grease												<0.5
Phosphate			0.08		0.06							
Potassium			4.16		2.							8.0
Selenium			<0.001		0.001							
Sodium			75.		48.							330.
Sulfate			269.		177.							1270.
Sulfide			<0.10		<0.2							
TDS			630.		514.							2550.
TSS			918.		438.							6.0
Sett. Solids												<0.1
Zinc			0.215		0.01							
C-A Balance					2.16							

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

CE RIVER
SW-1

Sampling Date	5-28-85	07-31-85	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow, cfs	300.000	200.000	50.000	50.000	25	500	224	182
Aluminum, Al (Tot) mg/l	2.470	<.001	0.280	0.440	0.000	81.000	12.100	22.925
Ammonia, NH3-N mg/l	<.01	0.050	0.500	0.050	0.000	0.800	0.255	0.241
Arsenic, As (Tot) mg/l	<.001	0.010	<.001	<.001	0.000	0.010	0.002	0.004
Barium, Ba (Tot) mg/l	0.100	0.340	0.050	0.050	0.020	0.990	0.289	0.316
Bicarbonate, HCO3 mg/l	261.000	252.500	407.000	431.000	252.500	457.500	355.885	70.599
Boron as B (Tot) mg/l	0.149	0.280	0.400	0.271	0.045	0.609	0.349	0.176
Cadmium, Cd (Tot) mg/l	<.001	<.001	<.001	<.001	0.000	0.015	0.002	0.004
Calcium, Ca mg/l	102.220	116.000	248.000	200.000	70.000	248.000	155.885	50.247
Carbonate as CO3 mg/l	<.01	<.01	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	14.100	24.700	41.800	56.600	14.100	56.600	36.175	13.121
Chromium, Cr (Tot) mg/l	0.028	0.041	0.040	0.004	0.000	0.065	0.028	0.024
Conductivity umhos/cm	850.000	1450.000	3500.000	3000.000	800.000	3500.000	1931.667	873.974
Copper (Tot) mg/l	0.040	0.120	<.01	<.01	0.000	0.160	0.052	0.053
Fluoride, F mg/l	0.200	0.240	0.340	0.270	0.023	0.420	0.248	0.090
Hardness, CaCO3 mg/l	405.000	498.000	1190.000	1030.000	360.000	1190.000	695.667	269.386
Iron, Fe (Tot) mg/l	3.420	53.000	0.650	0.900	0.650	149.500	27.727	41.170
Lead, Pb (Tot) mg/l	0.008	0.004	0.036	<.001	0.000	0.390	0.073	0.118
Magnesium, Mg mg/l	36.100	50.200	136.800	127.200	24.000	136.800	73.558	38.729
Manganese, Mn (Tot) mgl	0.150	0.770	0.140	0.180	0.020	3.800	0.675	1.005
Mercury, Hg mg/l	<.0002	<.0002	<.0002	<.0002	0.000	0.000	0.000	0.000
ybdenum as Mo (Tot) mg/l	<.001	<.01	0.020	0.027	0.000	0.027	0.006	0.009
kel, Ni (Tot) mg/l	<.01	<.05	<.01	<.01	0.000	0.350	0.052	0.099
Nitrate, NO3-N mg/l	0.400	1.080	0.910	1.820	0.400	1.820	0.785	0.367
Nitrite as NO2-N mg/l	<.01	0.020	0.250	2.390	0.000	2.390	0.300	0.655
Phosphate PO4-P Ortho mg/l	0.240	0.020	0.240	0.620	0.020	0.620	0.217	0.200
Phosphate Tot mg/l	<.01	2.060	0.400	1.080	0.000	9.400	1.569	2.492
Potassium, K mg/l	2.600	11.100	6.450	5.460	2.600	11.100	6.208	2.788
Selenium Se (Tot) mg/l	<.001	<.002	<.010	<.001	0.000	0.000	0.000	0.000
Sodium, Na mg/l	40.620	123.000	285.000	239.000	34.100	285.000	148.452	80.551
Sulfate, SO4 mg/l	245.000	500.000	1376.000	1100.000	140.000	1376.000	650.500	379.102
Sulfide as S mg/l	<.01	2.800	<.10	<.01	0.000	2.800	0.243	0.772
Suspended Solids mg/l	2460.000	2039.000	29.000	58.000	10.000	14896.000	2554.250	4186.083
Total Dis. Solids mg/l	540.000	942.000	2310.000	2070.000	540.000	2310.000	1273.417	579.704
Zinc, Zn (Dis) mg/l	0.166	0.348	0.013	0.026	0.008	0.940	0.233	0.287
pH Units	7.400	8.000	7.950	7.800	7.200	8.000	7.625	0.258

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

GH 5/7 Qcum 5/20

E RIVER
SW-1

Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-29-85	3-18-85
Flow, cfs	25	300	500	500	500	60	100	100
Aluminum, Al (Tot) mg/l	0.065	9.800	8.600	81.000	36.000	5.470	0.550	0.530
Ammonia, NH3-N mg/l	0.250	<.10	<.10	0.350	0.360	0.250	0.800	0.450
Arsenic, As (Tot) mg/l	<.001	<.001	<.001	<.001	<.010	0.008	<0.001	0.007
Barium, Ba (Tot) mg/l	0.020	0.340	0.360	0.990	0.900	0.120	0.060	0.130
Bicarbonate, HCO3 mg/l	409.920	268.400	457.500	408.700	286.700	329.400	407.500	351.000
Boron as B (Tot) mg/l	0.530	0.500	0.600	0.609	0.366	0.175	0.260	0.045
Cadmium, Cd (Tot) mg/l	<0.001	<.010	<.0010	0.003	0.015	<.001	<0.001	<.001
Calcium, Ca mg/l	168.000	70.000	160.000	220.000	140.000	124.800	125.600	196.000
Carbonate as CO3 mg/l	<.01	<.01	<.01	<.01	<.01	<.01	<0.01	<.01
Chloride, Cl mg/l	48.000	20.000	33.500	38.400	35.000	22.000	50.000	50.000
Chromium, Cr (Tot) mg/l	0.012	0.060	0.065	<.001	0.060	<.001	<0.001	0.020
Conductivity umhos/cm	2600	800	960	2400	1900	1200	1750	2770
Copper (Tot) mg/l	0.050	0.090	<.001	0.160	0.110	0.010	0.011	0.030
Fluoride, F mg/l	0.280	0.240	0.290	0.420	0.220	0.210	0.023	0.240
Hardness, CaCO3 mg/l	870	360	500	850	685	470	490	1000
Iron, Fe (Tot) mg/l	0.940	16.000	39.000	149.500	48.500	8.900	1.300	9.810
Lead, Pb (Tot) mg/l	0.005	0.005	0.002	0.390	0.210	0.180	0.036	0.004
Magnesium, Mg mg/l	108.000	44.400	24.000	72.000	80.400	38.400	42.400	122.800
Manganese, Mn (Tot) mgl	0.120	0.890	0.020	3.800	1.190	0.350	0.160	0.330
Mercury, Hg mg/l	<.0002	<.0002	<.0002	<.0002	<.0002	<.0002	<0.0002	<.0002
ybdenum as Mo (Tot) mg/l	<.001	<.001	<.001	0.010	0.009	0.005	<0.05	<.001
el, Ni (Tot) mg/l	0.030	0.050	0.040	0.350	0.150	<.01	<0.01	<.01
Nitrate, NO3-N mg/l	0.980	0.560	0.640	0.540	0.580	0.580	0.730	0.600
Nitrate as NO2-N mg/l	0.010	<.01	0.650	0.170	<.01	0.090	<0.01	0.020
Phosphate PO4-P Ortho mg/l	0.510	0.140	0.060	0.030	0.020	0.120	0.480	0.120
Phosphate Tot mg/l	0.380	0.100	0.150	9.400	2.800	1.060	0.800	0.600
Potassium, K mg/l	6.100	2.800	9.800	10.600	5.950	3.010	5.300	5.330
Selenium Se (Tot) mg/l	<.001	<.001	<.001	<.001	<.001	<.001	<0.001	<.001
Sodium, Na mg/l	213.000	46.700	34.100	175.000	118.000	95.000	202.000	210.000
Sulfate, SO4 mg/l	880	200	140	830	620	360	510	1045
Sulfide as S mg/l	0.120	<.01	<.01	<.01	<.01	<.01	<0.01	<.01
Suspended Solids mg/l	10	1559	1258	14896	7200	618	46	478
Total Dis. Solids mg/l	1700	550	675	1560	1174	810	1140	1810
Zinc, Zn (Dis) mg/l	0.940	0.200	0.010	0.707	0.240	0.048	0.008	0.087
pH Units	7.50	7.40	7.20	7.40	7.80	7.40	7.90	7.75

E.I.S. Hydrology
Field Measurements Form

6-23-98

Date 3/12/98 Station # SW-R

Company EARTHCO-WELLINGTON LOADOUT SITE

Time 12

Flow/Depth 4" x 60 x 1.25 fps = 25 CFS

pH 8.6

Specific Conductivity 1710

Water Temperature 8

Air Temperature 47

Dissolved Oxygen 8.6

Type: Spring___ Stream X Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear ✓ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor [signature]

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter-Mountain Laboratories, Inc.

NB 6-23-98

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Wellington Loadout Site
Sample ID: SW-2
Lab ID: 0398W01231
Matrix: Water
Condition: Cool/Intact

Date Received: 03/17/98
Date Reported: 04/06/98
Date Sampled: 03/12/98
Time Sampled: 1200

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.2	s.u.			0.1	EPA 150.1	03/17/98	1600	AP
Electrical Conductivity	2,500	µmhos/cm			10	EPA 120.1	03/17/98	1600	AP
Solids - Total Dissolved	1,990	mg/L			10	EPA 160.1	03/19/98	0800	BJ
Solids - Total Suspended	16	mg/L			2	EPA 160.2	03/23/98	0915	BJ
Solids - Settleable	0.1	mL/L			0.1	EPA 160.5	03/17/98	1430	CR
Alkalinity	321	mg/L			1	EPA 310.1	03/22/98	0900	AP
Hardness	981	mg/L			1	Calculation	03/31/98	1245	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	392	mg/L	6.42	meq/L	1	EPA 310.1	03/22/98	0900	AP
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Chloride	64	mg/L	1.80	meq/L	1	EPA 300.0	03/19/98	0800	AP
Sulfate	1,070	mg/L	22.3	meq/L	5	EPA 300.0	03/19/98	0800	AP
MAJOR CATIONS									
Calcium	197	mg/L	9.83	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Magnesium	119	mg/L	9.79	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Potassium	8.4	mg/L	0.22	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Sodium	258	mg/L	11.2	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			31.1	meq/L	N/A	Calculation	03/31/98	1245	JG
Anion Sum			30.5	meq/L	N/A	Calculation	03/31/98	1245	JG
Cation/Anion Balance			0.930	%	N/A	Calculation	03/31/98	1245	JG
DISSOLVED METALS									
Boron	0.30	mg/L			0.05	EPA 200.7	03/18/98	0700	ST
Iron	0.23	mg/L			0.02	EPA 200.7	03/18/98	0700	ST
Manganese	0.073	mg/L			0.005	EPA 200.7	03/18/98	0700	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/25/98	1115	AL
TOTAL METALS									
Boron	0.32	mg/L			0.05	EPA 200.7	03/20/98	1400	ST
Iron	0.62	mg/L			0.02	EPA 200.7	03/20/98	1400	ST
Manganese	3.35	mg/L			0.005	EPA 200.7	03/20/98	1400	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/20/98	1100	AL

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: JG

John Green, Water Lab Supervisor

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-2
Lab ID: 0397W02844
Matrix: Water
Condition: Cool/Intact

MB 2-16-98

Date Received: 12/05/97
Date Reported: 01/03/98
Date Sampled: 12/02/97
Time Sampled: 0939

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.1	s.u.			0.1	EPA 150.1	12/05/97	1600	AP
Electrical Conductivity	2,820	µmhos/cm			10	EPA 120.1	12/05/97	1600	AP
Solids - Total Dissolved	2,310	mg/L			10	EPA 160.1	12/08/97	0810	BJ
Solids - Total Suspended	14	mg/L			2	EPA 160.2	12/10/97	1010	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	12/05/97	1300	CR
Alkalinity	357	mg/L			1	EPA 310.1	12/12/97	0942	BJ
Hardness	1,160	mg/L			1	Calculation	12/22/97	1400	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	436	mg/L	7.14	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Chloride	124	mg/L	3.51	meq/L	1	EPA 300.0	12/10/97	1400	AP
Sulfate	1,240	mg/L	25.9	meq/L	5	EPA 375.4	12/16/97	0900	AP
MAJOR CATIONS									
Calcium	230	mg/L	11.5	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Magnesium	142	mg/L	11.7	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Potassium	7.6	mg/L	0.19	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Sodium	310	mg/L	13.5	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			36.8	meq/L	N/A	Calculation	12/22/97	1400	JG
Anion Sum			36.5	meq/L	N/A	Calculation	12/22/97	1400	JG
Cation/Anion Balance			0.340	%	N/A	Calculation	12/22/97	1400	JG
DISSOLVED METALS									
Boron	0.34	mg/L			0.05	EPA 200.7	12/08/97	1517	ST
Iron	0.27	mg/L			0.02	EPA 200.7	12/08/97	1517	ST
Manganese	0.155	mg/L			0.005	EPA 200.7	12/08/97	1517	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/09/97	1515	AL
TOTAL METALS									
Boron	0.34	mg/L			0.05	EPA 200.7	12/17/97	1613	ST
Iron	0.36	mg/L			0.02	EPA 200.7	12/17/97	1613	ST
Manganese	0.158	mg/L			0.005	EPA 200.7	12/17/97	1613	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/15/97	1200	AL

Temp 4°C
Flow 2"-26'
pH 8.14
Cond 2440
DO 8.0

From mine's spreadsheet in "multi-sites per page" section. MB

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: John Green
John Green, Water Lab Supervisor

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: NEICO
Project: Surface Water
Sample ID: SW-2
Lab ID: 0397W01805
Matrix: Water
Condition: Intact

tt 11/3

QC MB 12-3-97

Date Received: 08/26/97
Date Reported: 09/26/97
Date Sampled: 08/19/97
Time Sampled: 1100

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.0	s.u.	<0.01	meq/L	0.1	EPA 150.1	08/26/97	1552	BC
Electrical Conductivity	1,830	µmhos/cm			10	EPA 120.1	08/26/97	1552	BC
108 Solids - Total Dissolved	1,660	mg/L			10	EPA 160.1	09/02/97	1305	AP
16 Solids - Total Suspended	63	mg/L			2	EPA 160.2	08/27/97	1455	BC
99 Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	08/27/97	1010	CR
62 Alkalinity (CaCO3)	275	mg/L			1	EPA 310.1	08/29/97	1115	BC
63 Hardness (CaCO3)	750	mg/L			1	Calculation	09/22/97	1325	JG
MAJOR ANIONS									
50 Bicarbonate (HCO3)	335	mg/L	5.49	meq/L	1	EPA 310.1	08/29/97	1115	BC
52 Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
55 Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
53 Chloride	46	mg/L	1.30	meq/L	1	EPA 300.0	09/03/97	1300	AP
60 Sulfate	681	mg/L	14.2	meq/L	5	EPA 300.0	09/03/97	1300	AP
MAJOR CATIONS									
243 Calcium	156	mg/L	7.79	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2[illegible] Magnesium	87.6	mg/L	7.21	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2[illegible] Potassium	4.6	mg/L	0.12	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2[illegible] Sodium	163	mg/L	7.10	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
CATION / ANION BALANCE QC INFORMATION									
133 Cation Sum			22.2	meq/L	N/A	Calculation	09/22/97	1325	JG
134 Anion Sum			21.0	meq/L	N/A	Calculation	09/22/97	1325	JG
Cation/Anion Balance			2.92	%	N/A	Calculation	09/22/97	1325	JG
DISSOLVED METALS									
39 Boron	0.270	mg/L			0.05	EPA 200.7	09/16/97	0700	SW
46 Iron	0.090	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
43 Manganese	0.010	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
46 Selenium	<0.005	mg/L			0.005	EPA 270.3	08/28/97	1045	AL
TOTAL METALS									
160 Boron	0.250	mg/L			0.05	EPA 200.7	09/11/97	0935	MS
145 Iron	0.66	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
149 Manganese	0.090	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
153 Selenium	<0.005	mg/L			0.005	EPA 270.3	09/05/97	1945	AL

Temp 19°C
Flow 50 cfs
pH 8.08
SpC. 16416

DO 6.4 ppm

See multi sites / pg section for field data.

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

T-Oil & Grease → see multi-sites / pg section.

Reviewed By: _____
Wes Harvey, Laboratory Manager

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: NEICO
Project: Surface Water
Sample ID: SW-2
Lab ID: 0397W00863
Matrix: Water
Condition: Intact

CM 811

QC MB 9-9-97

Date Received: 05/19/97
Date Reported: 06/23/97
Date Sampled: 05/14/97
Time Sampled: 1130

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.4	s.u.			0.1	EPA 150.1	05/19/97	1200	BJ
Electrical Conductivity	731	µmhos/cm			10	EPA 150.1	05/19/97	1200	BJ
Solids - Total Dissolved	470	mg/L			10	EPA 160.1	05/19/97	1545	BJ
Solids - Total Suspended	1,720	mg/L			2	EPA 160.2	05/22/97	0940	BJ
Solids - Settleable	1.75	mL/L			0.1	EPA 160.5	05/20/97	0915	CR
Alkalinity (CaCO3)	250	mg/L			1	EPA 310.1	05/21/97	1405	BJ
Hardness (CaCO3)	332	mg/L			0.2	Calculation	05/18/97	0949	JW
Oil & Grease (Water)	<1	mg/L			1	EPA 413.2	05/22/97	0900	SW
MAJOR ANIONS									
Bicarbonate (HCO3)	168	mg/L	2.76	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Carbonate (CO3)	66.9	mg/L	2.23	meq/l	1	EPA 310.1	05/21/97	1405	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Chloride	13.9	mg/L	0.39	meq/L	1	EPA 325.2	05/22/97	1547	BJ
Sulfate	133	mg/L	2.77	meq/L	5	EPA 375.3	05/20/97	1412	BJ
MAJOR CATIONS									
Calcium	72.8	mg/L	3.63	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Magnesium	36.5	mg/L	3.01	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Potassium	3.05	mg/L	0.08	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Sodium	40.6	mg/L	1.77	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			8.49	meq/L	0.01	Calculation			
Anion Sum			8.15	meq/L	0.01	Calculation			
Cation/Anion Balance			2.04	%	0.01	Calculation			
DISSOLVED METALS									
Boron	<0.1	mg/L			0.1	EPA 200.7	05/20/97	1117	JW
Iron	0.45	mg/L			0.02	EPA 200.7	05/18/97	1117	JW
Manganese	0.016	mg/L			0.005	EPA 200.7	05/18/97	1117	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	05/21/97	1312	GB
TOTAL METALS									
Boron	0.17	mg/L			0.1	EPA 200.7	05/29/97	1401	JW
Iron	21.0	mg/L			0.02	EPA 200.7	05/29/97	1401	JW
Manganese	0.560	mg/L			0.005	EPA 200.7	05/29/97	1401	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	06/03/97	1150	AL

* SEE MULTI-SITES/PAGE SECTION FOR FIELD DATA

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: GB

Gloria Bartlett, Asst. Lab Manager

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

QC SH 5/5/97 cm 5/2

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-2
Lab ID: 0397W00454
Matrix: Water
Condition: Cool/Intact

Date Received: 03/27/97
Date Reported: 04/11/97
Date Sampled: 03/24/97
Time Sampled: 1300

Parameter	Analytical Result	Units		Units
GENERAL PARAMETERS				
pH	8.1	s.u.		
Electrical Conductivity	1,034	µmhos/cm		
Solids - Total Dissolved	736	mg/L		
Solids - Total Suspended	2,190	mg/L		
Solids - Settleable	2.0	mL/L		
Alkalinity	206	mg/L		
Hardness	385	mg/L		
Oil & Grease	<1	mg/L		
MAJOR ANIONS				
Bicarbonate (HCO3)	251	mg/L	4.12	meq/L
Carbonate (CO3)	<1	mg/L	<0.03	meq/L
Hydroxide (OH)	<1	mg/L	<0.06	meq/L
Chloride	31.1	mg/L	0.88	meq/L
Sulfate	320	mg/L	6.67	meq/L
MAJOR CATIONS				
Calcium	76.3	mg/L	3.81	meq/L
Magnesium	47.3	mg/L	3.89	meq/L
Potassium	3.99	mg/L	0.10	meq/L
Sodium	83.9	mg/L	3.65	meq/L
CATION / ANION BALANCE QC INFORMATION				
Cation Sum			11.5	meq/L
Anion Sum			11.7	meq/L
Cation/Anion Balance			0.95	%
DISSOLVED METALS				
Boron	0.13	mg/L		
Iron	0.41	mg/L		
Manganese	0.05	mg/L		
Selenium	<0.005	mg/L		
TOTAL METALS				
Boron	0.24	mg/L		
Iron	29.3	mg/L		
Manganese	0.98	mg/L		
Selenium	<0.005	mg/L		

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: GB

Gloria Bartlett, Asst. Lab Manager

CM 3/13

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 Station # SW-2

Company Earthco

Time 11:20

Flow/Depth 0.4 in over ~~[illegible]~~ weir

pH 7.6

Specific Conductivity 4.13x1000 4130 umhos/cm

Water Temperature ~~[illegible]~~ 6°C

Air Temperature

Dissolved Oxygen ~~[illegible]~~ 9.5, 10, 10 ≈ 9.75

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point Below ~~[illegible]~~ weir

Appearance of Water: Clear___ Milky ~~[illegible]~~ Cloudy ✓ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor [signature]

12-4-97
Spoke w/ Anna Traweek. She called EIS to get correct flow:
9" over 80' weir ⇒ 75 CFS
NS

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter-Mountain Laboratories, Inc.

QC MB 1-4-97

2506 W. Main Street
Farmington, New Mexico 87401

Client: **EarthCo**
Project: Wellington - Castle Valley Resources Surface Water
Sample ID: SW 2
Laboratory ID: 0396W02740
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 01/14/97
Date Sampled: 12/16/969
Time Sampled: 11:20 AM
Date Received: 12/19/96

SM 3113

Parameter	Analytical Result	Units		Units
Lab pH	7.9	s.u.		
Lab Conductivity @ 25° C	3,100	umhos/cm		
Total Dissolved Solids @ 180°C	2,700	mg/L		
Total Dissolved Solids (Calc)	2,550	mg/L		
Total Suspended Solids	19	mg/L		
Settleable Solids	<0.1	ml/L		
Total Alkalinity as CaCO3	390	mg/L		
Total Hardness as CaCO3	1,240	mg/L		
Oil & Grease	<1.0	mg/L		
Bicarbonate as HCO3	470	mg/L	7.73	meq/L
Carbonate as CO3	<1.00	mg/L	<0.01	meq/L
Hydroxide as OH	<1.00	mg/L	<0.01	meq/L
Chloride	87.9	mg/L	2 48	meq/L
Sulfate	1,470	mg/L	30.7	meq/L
Calcium	250	mg/L	12.3	meq/L
Magnesium	150	mg/L	12.4	meq/L
Potassium	7.43	mg/L	0.19	meq/L
Sodium	350	mg/L	15.1	meq/L
Cations			40.0	meq/L
Anions			40.9	meq/L
Cation/Anion Difference			1.08	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by GB

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**EarthCo**		
Project:	Wellington - Castle Valley Resources Surface Water	Date Reported:	01/14/97
Sample ID:	SW 2	Date Sampled:	12/16/969
Laboratory ID:	0396W02740	Time Sampled:	11:20 AM
Sample Matrix:	Water	Date Received:	12/19/96
Condition:	Cool/Intact		

Parameter	Dissolved Analytical Result	Total Analytical Result	Units
Trace Metals			
Boron	0.43	0.47	mg/L
Iron	0.20	0.87	mg/L
Manganese	0.23	0.23	mg/L
Selenium	<0.005	<0.005	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by

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TEL: (801) 653-2311
FAX: (801) 653-2436

September 10, 1996

SH 5-14

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151
LINDA DASILVA

Sample identification by
NEICO

QC cm 5/20

Kind of sample reported to us Water

SW-2

Sample taken at

Rec'd 1331 hr.
Sampled 1110 hr.

Sample taken by EIS

Date sampled August 20, 1996

Date received August 20, 1996

NOTE: Metals preserved at lab!
Oil & Grease preserved at lab!

Analysis report no. 59-16374

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	309	5	mg/l as HCO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Carbonate	18	5	mg/l as CO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Total	283	5	mg/l as $CaCO_3$	EPA 310.1	08-22-1996 0800 SW
Anions	29.1	----	meq/l	---------	09-06-1996 1430 JJ
Calcium, Total	179	2	mg/l	EPA 215.1	08-29-1996 0830 MK
Cations	28.8	----	meq/l	---------	09-06-1996 1430 JJ
Chloride	55	1	mg/l	SM4500-Cl-B	08-27-1996 0800 SW
Conductivity	2350	1	umhos/cm	SM2510-B	08-28-1996 1430 SW
Hardness, Total	875	----	mg/l as $CaCO_3$	SM2340-B	09-06-1996 1430 JJ
Iron, Total	0.4	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Magnesium, Total	104	2	mg/l	EPA 242.1	08-29-1996 0900 MK
Manganese, Total	<0.1	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Oil & Grease	<2	2	mg/l	SM5520-B	08-21-1996 0630 JC
pH	8.14	----	pH units	EPA 150.1	08-20-1996 1715 JJ
Potassium, Total	7	1	mg/l	EPA 258.1	08-29-1996 1100 MK
Sodium, Total	255	1	mg/l	EPA 273.1	08-29-1996 1130 MK
Solids, Settleable	<0.5	0.5	ml/l	EPA 160.5	08-20-1996 1430 SW
Solids, Total Dissolved	1923	10	mg/l	EPA 160.1	08-22-1996 0700 JC
Solids, Total Suspended	13	5	mg/l	EPA 160.2	08-22-1996 0700 JC
Sulfate	1049	100	mg/l	EPA 375.4	09-05-1996 1300 SW
Cation/Anion Balance	-0.5	----	%		09-06-1996 1430 JJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.
Larry Stout
Huntington Laboratory

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May 21, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151

Sample identificat: NEICO

need QC

Kind of sample reported to us Water

SW-2

Rec'd 1356 hr.
Sampled 1153 hr.

Sample taken at

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled May 9, 1996

Date received May 9, 1996

Analysis report no. 59-15948

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	334	2	mg/l as HCO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Carbonate	7	2	mg/l as CO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Total	286	2	mg/l as $CaCO_3$	EPA 310.1	05-13-1996 0700 SW
Anions	11.1	----	meq/l	---------	05-17-1996 1130 BR
Calcium, Total	113	0.2	mg/l	EPA 215.1	05-13-1996 0800 MK
Cations	12.8	----	meq/l	---------	05-17-1996 1130 BR
Chloride	26.0	0.4	mg/l	SM4500-Cl-B	05-15-1996 1000 SW
Conductivity	927	1	umhos/cm	SM2510-B	05-14-1996 0800 SW
Hardness, Total	490	----	mg/l as $CaCO_3$	SM2340-B	05-17-1996 1130 BR
Iron, Total	7.56	0.06	mg/l	EPA 236.1	05-13-1996 1145 MK
Iron, Dissolved	0.04	0.03	mg/l	EPA 236.1	05-13-1996 1145 MK
Magnesium, Total	50	1.2	mg/l	EPA 242.1	05-13-1996 0830 MK
Manganese, Total	0.30	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Manganese, Dissolved	<0.04	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Oil & Grease	<2	2	mg/l	SM5520-B	05-10-1996 0700 JC
pH	8.33	----	pH units	EPA 150.1	05-10-1996 1300 BR
Potassium, Total	4.6	0.6	mg/l	EPA 258.1	05-13-1996 1330 MK
Sodium, Total	69	0.6	mg/l	EPA 273.1	05-13-1996 1345 MK
Solids, Settleable	0.7	0.5	ml/l	EPA 160.5	05-10-1996 0700 JC
Solids, Total Dissolved	642	9	mg/l	EPA 160.1	05-13-1996 0700 JC
Solids, Total Suspended	475	5	mg/l	EPA 160.2	05-09-1996 0700 JC
Sulfate	223.0	27	mg/l	EPA 375.4	05-14-1996 1330 SW
Cation/Anion Balance	7.2	----	%		05-17-1996 1130 BR

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Huntington Laboratory

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May 21, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151

Sample identification by
NEICO

Kind of sample reported to us Water

SW-2

Sample taken at

Rec'd 1356 hr.
Sampled 1153 hr.

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled May 9, 1996

Date received May 9, 1996

Analysis report no. 59-15948

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	334	2	mg/l as HCO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Carbonate	7	2	mg/l as CO_3	SM2320-B	05-13-1996 0700 SW
Alkalinity, Total	286	2	mg/l as $CaCO_3$	EPA 310.1	05-13-1996 0700 SW
Anions	11.1	----	meq/l	---------	05-17-1996 1130 BR
Calcium, Total	113	0.2	mg/l	EPA 215.1	05-13-1996 0800 MK
Cations	12.8	----	meq/l	---------	05-17-1996 1130 BR
Chloride	26.0	0.4	mg/l	SM4500-Cl-B	05-15-1996 1000 SW
Conductivity	927	1	umhos/cm	SM2510-B	05-14-1996 0800 SW
Hardness, Total	490	----	mg/l as $CaCO_3$	SM2340-B	05-17-1996 1130 BR
Iron, Total	7.56	0.06	mg/l	EPA 236.1	05-13-1996 1145 MK
Iron, Dissolved	0.04	0.03	mg/l	EPA 236.1	05-13-1996 1145 MK
Magnesium, Total	50	1.2	mg/l	EPA 242.1	05-13-1996 0830 MK
Manganese, Total	0.30	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Manganese, Dissolved	<0.04	0.04	mg/l	EPA 243.1	05-13-1996 1245 MK
Oil & Grease	<2	2	mg/l	SM5520-B	05-10-1996 0700 JC
pH	8.33	----	pH units	EPA 150.1	05-10-1996 1300 BR
Potassium, Total	4.6	0.6	mg/l	EPA 258.1	05-13-1996 1330 MK
Sodium, Total	69	0.6	mg/l	EPA 273.1	05-13-1996 1345 MK
Solids, Settleable	0.7	0.5	ml/l	EPA 160.5	05-10-1996 0700 JC
Solids, Total Dissolved	642	9	mg/l	EPA 160.1	05-13-1996 0700 JC
Solids, Total Suspended	475	5	mg/l	EPA 160.2	05-09-1996 0700 JC
Sulfate	223.0	27	mg/l	EPA 375.4	05-14-1996 1330 SW
Cation/Anion Balance	7.2	----	%		05-17-1996 1130 BR

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

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April 17, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230
LAS VEGAS, NEVADA 89151

Sample identification by
NEICO

SW-2

Rec'd 1700 hr.
Sampled 1435 hr.

Kind of sample reported to us Water

Sample taken at

Sample taken by EIS

Date sampled March 26, 1996

Date received March 26, 1996

NOTE: Dissolved metals filtered at Lab.

Analysis report no. 59-15878

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst		
Alkalinity, Bicarbonate	294	2	mg/l as HCO_3	SM2320-B	04-02-1996	0800	SW
Alkalinity, Carbonate	8	2	mg/l as CO_3	SM2320-B	04-02-1996	0800	SW
Alkalinity, Total	255	2	mg/l as $CaCO_3$	EPA 310.1	04-02-1996	0800	SW
Anions	12.3	----	meq/l	---------	04-11-1996	1600	BR
Calcium, Total	98	0.2	mg/l	EPA 215.1	03-28-1996	1230	MK
Cations	13.1	----	meq/l	---------	04-11-1996	1600	BR
Chloride	44.0	0.4	mg/l	SM4500-Cl-B	04-01-1996	1300	SW
Conductivity	1072	1	umhos/cm	SM2510-B	04-03-1996	0700	SW
Hardness, Total	450	----	mg/l as $CaCO_3$	SM2340-B	04-11-1996	1600	BR
Iron, Total	5.11	0.03	mg/l	EPA 236.1	03-28-1996	0815	MK
Iron, Dissolved	<0.03	0.03	mg/l	EPA 236.1	04-03-1996	0800	MK
Magnesium, Total	50	1.2	mg/l	EPA 242.1	03-28-1996	1330	MK
Manganese, Total	0.18	0.04	mg/l	EPA 243.1	03-28-1996	0945	MK
Manganese, Dissolved	<0.04	0.04	mg/l	EPA 243.1	04-03-1996	0915	MK
Oil & Grease	<2	2	mg/l	SM5520-B	04-04-1996	0700	JC
pH	8.18	----	pH units	EPA 150.1	03-29-1996	0900	BR
Potassium, Total	4.2	0.6	mg/l	EPA 258.1	03-28-1996	1015	MK
Sodium, Total	95	0.6	mg/l	EPA 273.1	03-28-1996	1100	MK
Solids, Settleable	0.6	0.5	ml/l	EPA 160.5	03-27-1996	0915	MK
Solids, Total Dissolved	703	9	mg/l	EPA 160.1	03-29-1996	0930	MK
Solids, Total Suspended	315	5	mg/l	EPA 160.2	03-30-1996	0700	JC
Sulfate	286.0	26	mg/l	EPA 375.4	04-11-1996	0700	SW
Cation/Anion Balance	3.3	----	%		04-11-1996	1600	BR

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stow

Huntington Laboratory

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December 15, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

SH 5/7
QC CM 5/20

Sample identification by
NEICO

Kind of sample reported to us Water

SW-2

Sample taken at Wellington

Rec'd 1032 hr.
Sampled 0935 hr.

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled November 28, 1995

Date received November 28, 1995

Analysis report no. 59-15678

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	420	5	mg/l	as HCO_3	SM2320-B	12-07-1995 0600 SW
Alkalinity, Carbonate	30	5	mg/l	as CO_3	SM2320-B	12-07-1995 0600 SW
Alkalinity, Total	395	5	mg/l	as $CaCO_3$	EPA 310.1	12-07-1995 0600 SW
Anions	37.6	----	meq/l		---------	---------- ----- --
Calcium, Total	198	1	mg/l		EPA 215.1	11-29-1995 1330 MK
Calcium, Dissolved	192	1	mg/l		EPA 215.1	11-29-1995 1330 MK
Cations	37.7	----	meq/l		---------	---------- ----- --
Chloride	82	1	mg/l		SM4500-Cl-B	12-01-1995 1030 SW
Hardness, Total	1038	10	mg/l	as $CaCO_3$	SM2340-B	11-29-1995 1330 MK
Iron, Total	0.9	0.1	mg/l		EPA 236.1	11-29-1995 0945 MK
Iron, Dissolved	<0.1	0.1	mg/l		EPA 236.1	11-29-1995 0945 MK
Magnesium, Total	132	1	mg/l		EPA 242.1	11-29-1995 1430 MK
Magnesium, Dissolved	124	1	mg/l		EPA 242.1	11-29-1995 1430 MK
Manganese, Total	0.2	0.1	mg/l		EPA 243.1	11-29-1995 1015 MK
Manganese, Dissolved	0.1	0.1	mg/l		EPA 243.1	11-29-1995 1015 MK
Oil & Grease	<5	5	mg/l		SM5520-B	11-28-1995 0900 JC
Potassium, Total	6	1	mg/l		EPA 258.1	11-29-1995 1045 MK
Potassium, Dissolved	6	1	mg/l		EPA 258.1	11-29-1995 1045 MK
Sodium, Total	389	1	mg/l		EPA 273.1	11-29-1995 1115 MK
Sodium, Dissolved	377	1	mg/l		EPA 273.1	11-29-1995 1115 MK
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	11-28-1995 1130 MK
Solids, Total Dissolved	2320	10	mg/l		EPA 160.1	11-29-1995 0730 JC
Solids, Total Suspended	15	5	mg/l		EPA 160.2	11-29-1995 1230 JC
Sulfate	1317	1	mg/l		EPA 375.4	12-11-1995 1100 SW

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
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PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

October 4, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

CH 5/7
QC 5/20

Sample identification by
NEICO

Kind of sample reported to us Water

SW-2 Surface Water CVR

Rec'd 0740 hr.
Sampled NA

Sample taken at Wellington

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled September 14, 1995

Date received September 15, 1995

Analysis report no. 59-15419

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst		
Alkalinity, Bicarbonate	305	5	mg/l	as HCO_3	SM2320-B	09-22-1995	1200	SW
Alkalinity, Carbonate	10	5	mg/l	as CO_3	SM2320-B	09-22-1995	1200	SW
Alkalinity, Total	265	5	mg/l	as $CaCO_3$	EPA 310.1	09-22-1995	1200	SW
Anions	20.1	----	meq/l		---------	----------	-----	--
Calcium, Total	139	1	mg/l		EPA 215.1	09-20-1995	0745	MK
Calcium, Dissolved	131	1	mg/l		EPA 215.1	09-28-1995	1200	MK
Cations	23.6	----	meq/l		---------	----------	-----	--
Chloride	51	1	mg/l		SM4500-Cl-B	09-28-1995	0815	SW
Hardness, Total	681	10	mg/l	as $CaCO_3$	SM2340-B	09-20-1995	0745	MK
Iron, Total	0.5	0.1	mg/l		EPA 236.1	09-19-1995	0600	MK
Iron, Dissolved	<0.1	0.1	mg/l		EPA 236.1	09-28-1995	0745	MK
Magnesium, Total	81	1	mg/l		EPA 242.1	09-20-1995	1100	MK
Magnesium, Dissolved	74	1	mg/l		EPA 242.1	09-28-1995	1300	MK
Manganese, Total	<0.1	0.1	mg/l		EPA 243.1	09-19-1995	0815	MK
Manganese, Dissolved	<0.1	0.1	mg/l		EPA 243.1	09-28-1995	0915	MK
Oil & Grease	<5	5	mg/l		SM5520-B	09-20-1995	0800	JC
Potassium, Total	5	1	mg/l		EPA 258.1	09-19-1995	0945	MK
Potassium, Dissolved	5	1	mg/l		EPA 258.1	09-28-1995	1000	MK
Sodium, Total	229	1	mg/l		EPA 273.1	09-19-1995	1200	MK
Sodium, Dissolved	225	1	mg/l		EPA 273.1	09-28-1995	1030	MK
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	09-14-1995	1615	SW
Solids, Total Dissolved	1370	10	mg/l		EPA 160.1	09-15-1995	0800	JC
Solids, Total Suspended	15	5	mg/l		EPA 160.2	09-18-1995	0730	JC
Sulfate	642	1	mg/l		EPA 375.4	09-29-1995	1245	SW

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Slow

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
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TEL: (801) 653-2311
FAX: (801) 653-2436

October 4, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

Sample identification by
NEICO

Kind of sample reported to us Water

SW-2 Surface Water CVR

Rec'd 0740 hr.
Sampled NA

Sample taken at Wellington

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled September 14, 1995

Date received September 15, 1995

Analysis report no. 59-15419

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Cation/Anion Balance	7.8	----	%		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

E.I.S. Hydrology
Field Measurements Form

Date 3/6/95 Station # 561-2

Company NE

Time 1300

Flow/Depth 4½ Depth

pH 8.03

Specific Conductivity 3080

Water Temperature 51

Air Temperature 50

Dissolved Oxygen ✓

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point Dawson Dam

Appearance of Water: Clear___ Milky___ Cloudy ✓ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

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PLEASE ADDRESS ALL CORRESPONDENCE T
P.O. BOX 1020, HUNTINGTON, UT 84
TEL: (801) 653-2
FAX: (801) 653-2

March 22, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

SH 5/7
QC
CW 5/20

Sample identification by
NEICO

Kind of sample reported to us	Water	SW-2
		Rec'd 1730 hr.
Sample taken at	Wellington	Sampled 1300 hr.
Sample taken by	EIS	NOTE:Dissolved metals filtered at Lab. Due to high TSS, sample would not balance.
Date sampled	March 6, 1995	
Date received	March 6, 1995	

Analysis report no. 59-14826

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analys
Alkalinity, Bicarbonate	225	5	mg/l as HCO_3	SM2320-B	03-07-1995 0800 S
Alkalinity, Carbonate	85	5	mg/l as CO_3	SM2320-B	03-07-1995 0800 S
Alkalinity, Total	320	5	mg/l as $CaCO_3$	EPA 310.1	03-07-1995 0800 S
Anions	25.20	----	meq/l	---------	---------- ----- -
Boron, Total	0.2	0.1	mg/l	EPA 212.3	03-10-1995 1250 L
Boron, Dissolved	0.2	0.1	mg/l	EPA 212.3	03-10-1995 1250 L
Calcium, Total	138	1	mg/l	EPA 215.1	03-14-1995 1600 D
Cations	34.00	----	meq/l	---------	---------- ----- -
Chloride	100	1	mg/l	SM4500-Cl-B	03-07-1995 1200 S
Conductivity	2200	1	umhos/cm	SM2510-B	03-13-1995 0800 S
Hardness, Total	1000	10	mg/l as $CaCO_3$	SM2340-B	03-14-1995 1600 D
Iron, Total	3.1	0.1	mg/l	EPA 236.1	03-13-1995 1430 D
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	03-09-1995 1500 D
Magnesium, Total	160	1	mg/l	EPA 242.1	03-15-1995 0715 D
Manganese, Total	0.2	0.1	mg/l	EPA 243.1	03-14-1995 0900 D
Manganese, Dissolved	<0.1	0.1	mg/l	EPA 243.1	03-09-1995 1600 D
Oil & Grease	<5	5	mg/l	EPA 413.1	03-07-1995 1030 L
pH	8.20	----	pH units	EPA 150.1	03-06-1995 1715 D
Potassium, Total	6	1	mg/l	EPA 258.1	03-14-1995 1200 D
Selenium, Total	<0.01	0.01	mg/l	EPA 270.2	03-10-1995 1330 D
Selenium, Dissolved	<0.01	0.01	mg/l	EPA 270.2	03-09-1995 0730 D
Sodium, Total	320	1	mg/l	EPA 273.1	03-14-1995 1300 D
Solids, Settleable	0.6	0.5	ml/l	EPA 160.5	03-07-1995 0730 S
Solids, Total Dissolved	1630	10	mg/l	EPA 160.1	03-07-1995 0700 S

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
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P.O. BOX 1020, HUNTINGTON
TEL: (801)
FAX: (801)

March 22, 1995

NEICO
2835 SOUTH JONES
LAS VEGAS, NEVADA 89102

CH 5/7

Sample identification by
NEICO

Kind of sample reported to us	Water	SW-2
Sample taken at	Wellington	Rec'd 1730 hr. Sampled 1300 hr.
Sample taken by	EIS	NOTE: Dissolved metals filtered at Lab. Due to high TSS, sample would not balance.
Date sampled	March 6, 1995	
Date received	March 6, 1995	

Analysis report no. 59-14826

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Solids, Total Suspended	140	10	mg/l	EPA 160.2	03-10-1995 1440 LI
Sulfate	760	1	mg/l	EPA 375.4	03-09-1995 1300 SI
Cation/Anion Balance	14.90	----	%		

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Manager, Huntington Laboratory

Wellington Prep
007/012

E.I.S. Hydrology
Field Measurements Form

Date 11/29/94 ✓

Station # CUR SW-2

Company Comm

Storet # 173204

Time 2:00

Flow/Depth >10 CFS ✓

pH 7.93 ✓

Specific Conductivity 5.13 x 1000 ✓

Water Temperature 4°C ✓

Air Temperature 2°C ✓

Dissolved Oxygen 8.4 ppm ✓

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point from pumphouse diversion

Appearance of Water: Clear___ Milky ✓ Cloudy___ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading___

Comments 1" ICE on RIVER

Field Monitor DS

When Sample or Measurements Not Taken:

Reason: ___

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

COMMERCIAL TESTING & ENGINEERING CO.
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PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

December 8, 1994

GENWAL COAL CO.
P.O. BOX 1201
HUNTINGTON UTAH 84528

QC 5/20

Sample identification by
GENWAL COAL CO.

Kind of sample reported to us Water — SW-2

Sample taken at Wellington Loadout — Rec'd 1530 hr. Sampled 1400 hr.

Sample taken by EIS

NOTE: Dissolved metals filtered at Lab.

Date sampled November 29, 1994

Date received November 29, 1994

Analysis report no. 59-14615

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst		
Alkalinity, Bicarbonate	415	1	mg/l	as HCO_3	SM2320-B	12-01-1994	1455	LS
Alkalinity, Carbonate	<1	1	mg/l	as CO_3	SM2320-B	12-01-1994	1455	LS
Alkalinity, Total	340	1	mg/l	as $CaCO_3$	EPA 310.1	12-01-1994	1455	LS
Anions	33.80	----	meq/l		---------	----------	-----	--
Calcium, Total	198	5	mg/l		EPA 215.1	12-07-1994	1430	DW
Calcium, Dissolved	191	5	mg/l		EPA 215.1	12-07-1994	1430	DW
Cations	32.90	----	meq/l		---------	----------	-----	--
Chloride	71	1	mg/l		SM4500-Cl-B	12-01-1994	0800	LS
Hardness, Total	950	10	mg/l	as $CaCO_3$	SM2340-B	12-07-1994	1430	DW
Iron, Total	1.5	0.2	mg/l		EPA 236.1	12-07-1994	0800	DW
Iron, Dissolved	<0.2	0.2	mg/l		EPA 236.1	12-07-1994	0800	DW
Magnesium, Total	110	2	mg/l		EPA 242.1	12-08-1994	0930	DW
Magnesium, Dissolved	110	2	mg/l		EPA 242.1	12-08-1994	0930	DW
Manganese, Total	0.2	0.2	mg/l		EPA 243.1	12-07-1994	0900	DW
Manganese, Dissolved	<0.2	0.2	mg/l		EPA 243.1	12-07-1994	0900	DW
Oil & Grease	<5	5	mg/l		EPA 413.1	12-02-1994	0730	LM
Potassium, Total	7	5	mg/l		EPA 258.1	12-07-1994	1200	DW
Potassium, Dissolved	6	5	mg/l		EPA 258.1	12-07-1994	1200	DW
Sodium, Total	320	5	mg/l		EPA 273.1	12-07-1994	1130	DW
Sodium, Dissolved	320	5	mg/l		EPA 273.1	12-07-1994	1130	DW
Solids, Settleable	<0.5	0.5	ml/l		EPA 160.5	11-29-1994	0800	LS
Solids, Total Dissolved	2185	10	mg/l		EPA 160.1	11-29-1994	0940	LS
Solids, Total Suspended	88	4	mg/l		EPA 160.2	12-01-1994	1215	LM
Sulfate	1200	1	mg/l		EPA 375.4	12-07-1994	1000	LS
Cation/Anion Balance	-1.4		%					

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Manager, Huntington Laboratory

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**GENWAL COAL CO.**		
Project:	Castle Valley Resources (CVR)	Date Reported:	05/13/94
Sample ID:	SW-2	Date Sampled:	04/13/94
Laboratory ID:	W00273	Time Sampled:	1235
Sample Matrix:	Water	Date Received:	04/18/94
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	8.3	s.u.		
Lab Conductivity @ 25° C	3,000	umhos/cm		
Total Dissolved Solids @ 180°C	2,420	mg/L		
Total Dissolved Solids (Calc)	2,290	mg/L		
Total Alkalinity as CaCO3	373	mg/L		
Total Hardness as CaCO3	1,010	mg/L		
Total Suspended Solids	13	mg/L		
Settleable Solids	<0.1	mg/L		
Bicarbonate as HCO3	455	mg/L	7.47	meq/L
Carbonate as CO3	0	mg/L	0.00	meq/L
Chloride	104	mg/L	2.94	meq/L
Sulfate	1,250	mg/L	26.02	meq/L
Dissolved Metals				
Calcium	172	mg/L	8.58	meq/L
Magnesium	142	mg/L	11.72	meq/L
Potassium	6.0	mg/L	0.15	meq/L
Sodium	391	mg/L	17.01	meq/L
Cations			37.46	meq/L
Anions			36.42	meq/L
Cation/Anion Difference			1.40	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reviewed by

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

QC MB 6-17-94

Client:	GENWAL COAL CO.		
Project:	Castle Valley Resources (CVR)	Date Reported:	05/13/94
Sample ID:	SW-2	Date Sampled:	04/13/94
Laboratory ID:	W00273	Time Sampled:	1235
Sample Matrix:	Water	Date Received:	04/18/94
Condition:	Cool/Intact		

Parameter	Dissolved Analytical Result	Total Analytical Result	Units
Trace Metals			
Iron	0.47	0.85	mg/L
Manganese	0.23	0.19	mg/L
Calcium	172 Dup	146	mg/L
Sodium	391 Dup	294	mg/L
Potassium	6.0 Dup	5.9	mg/L
Magnesium	142 Dup	114	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reviewed by

Mountain States Analytical
The Quality Solution

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout

Sample ID: SW 2
Matrix: Waste Water

CH 5/7
QC CW 5/20

MSAI Sample: 16577
MSAI Group: 3988
Date Reported: 03/14/94
Discard Date: 04/13/94
Date Submitted: 03/10/94
Date Sampled: 03/09/94
Collected by: LJ
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0215	Solids, Settleable Method: EPA 160.5	1.2	mg/l	(1) 0.2
0368	Nitrogen, Nitrate Method: EPA 353.3	0.98	mg/l	0.05
0475	Acidity (to pH 3.7 and 8.3) Method: EPA 305.1	ND	mg/l	1

(1) Result is in mL/L/hr.

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Mountain States Analytical
The Quality Solution

SH 5/7
QC 5/20

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout Surface Waters

Sample ID: SW 2
Matrix: Waste Water

MSAI Sample: 16463
MSAI Group: 3959
Date Reported: 03/21/94
Discard Date: 04/20/94
Date Submitted: 03/07/94
Date Sampled: 03/04/94
Collected by: LJ
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
7258	Manganese by ICP Method: SW-846 6010A	0.16	mg/l	0.02
CATIO	Cations-Mg,Ca,K,Na,Fe Method: ASTM D-596-83			
	Magnesium	8.19	meq/l	0.01
	Calcium	8.18	meq/l	0.01
	Potassium	0.16	meq/l	0.01
	Sodium	10.0	meq/l	0.01
	Iron	0.035	meq/l	0.001
0009	Cation/Anion Balance Calculation Method: ASTM D-596-83			
	Cations % of Balance	26.6	Meq/l	0.5
	Anions % of Balance	31.0	Meq/l	0.5
0201	Alkalinity as CaCO3 (pH 4.5) Method: EPA 310.1			
	Bicarbonate	330	mg/l	1
	Carbonate	ND	mg/l	1
	Hydroxide	ND	mg/l	1
0206	Solids, Total Suspended (TSS) Method: EPA 160.2	52	mg/l	4
0212	Solids, Total Dissolved Method: EPA 160.1	1,950	mg/l	10
0216	Hardness as CaCO3 - Titrimetric Method: EPA 130.2	890	mg/l	5
0231	Oil and Grease, Gravimetric Method: EPA 413.1	ND	mg/l	2

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Mountain States Analytical
The Quality Solution

Genwal Coal Company

MSAI Sample: 16463
MSAI Group: 3959

Sample ID: SW 2

Test	Analysis	Results as Received	Units	Limit of Quantitation
ANION	Anions-CaC03,SO4,Cl,F,N03			
	Method: ASTM D-596-83			
	Bicarbonate	6.59	meq/l	0.04
	Sulfate	22.3	meq/l	0.04
	Chloride	2.04	meq/l	0.05
	Fluoride	0.019	meq/l	0.005

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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Mountain States Analytical
The Quality Solution

CH 5/7

Cation Anion Balance Spreadsheet

Project: Genwal
Sample #: 16463
Group #: 3959
Analyst: RA/GS
Date: 03/17/94

	Cations	mg/l	meq/l
1	Calcium	163.9	8.17861
2	Magnesium	99.55	8.18898
3	Iron	0.6505	0.03494
4	Sodium	230.7	10.03545
5	Potassium	6.263	0.16014
	Cation Total =		26.598133

	Anions	mg/l	meq/l
1	Chloride	72.5	2.04523
2	Bicarbonate	330	6.59437
3	Sulfate	1070	22.27740
4	Fluoride	0.355	0.01869
5	Nitrate	0.98	0.01581
	Anion Total =		30.951487

Percentage Error = 15.13%

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Mountain States Analytical
The Quality Solution

SH 5/7

Genwal Coal Company
P.O. Box 1201
Huntington, UT 84528

Attn: Mr. Larry Johnson
Project: Genwal Loadout Surface Waters

Sample ID: SW 2 diss
Matrix: Waste Water

MSAI Sample: 16536
MSAI Group: 3959
Date Reported: 03/21/94
Discard Date: 04/20/94
Date Submitted: 03/07/94
Date Sampled: 03/04/94
Collected by: LJ
Purchase Order:
Project No.:

Test	Analysis	Results as Received	Units	Limit of Quantitation
0254F	Iron by ICP, Dissolved Method: SW-846 6010A	ND	mg/l	0.10

ND - Not detected at the limit of detection

Respectfully Submitted,
Reviewed and Approved by:

Rolf E. Larsen
Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

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PLEASE ADDRESS ALL CORRESPONDENCE T
P.O. BOX 1020, HUNTINGTON, UT 845
TEL: (801) 653-23
FAX: (801) 653-24

December 22, 1993

GENWAL COAL CO.
P.O. BOX 1201
HUNTINGTON UTAH 84528

CH5/X

Sample identification by
GENWAL COAL CO.

QC cw 5/20

Kind of sample reported to us Water

SW-2

Sample taken at Wellington Loadout

Rec'd 0946 hr.
Sampled 0935 hr.

Sample taken by Genwal

Date sampled December 11, 1993

Date received December 13, 1993

Analysis report no. 59-13764

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst		
Acidity	<10	1	mg/l	$CaCO_3$ 2310 B	12-15-1993	0955	ED
Alkalinity, Bicarbonate	371	1	mg/l	$CaCO_3$ 4500 CO_2D	12-15-1993	1515	LS
Alkalinity, Carbonate	<1	1	mg/l	$CaCO_3$ 4500 CO_2D	12-15-1993	1515	LS
Alkalinity, Total	371	1	mg/l	$CaCO_3$ EPA 310.1	12-15-1993	1515	LS
Anions	28.30	----	meq/l	---------	----------	-----	--
Calcium	150.0	1	mg/l	EPA 215.1	12-16-1993	1045	DW
Cations	24.80	----	meq/l	---------	----------	-----	--
Chloride	75.0	1	mg/l	EPA 325.3	12-20-1993	1500	LM
Hardness, Total	828.0	1	mg/l	$CaCO_3$ 2340 B	12-16-1993	1045	DW
Iron	1.80	0.2	mg/l	EPA 236.1	12-17-1993	1030	DW
Iron, Dissolved	<0.20	0.2	mg/l	EPA 236.1	12-21-1993	1200	DW
Magnesium	110.00	1	mg/l	EPA 242.1	12-16-1993	1230	DW
Manganese	0.10	0.1	mg/l	EPA 243.1	12-16-1993	1600	DW
Oil & Grease	<5	5	mg/l	EPA 413.1	12-14-1993	1000	LM
Potassium	10.0	2	mg/l	EPA 258.1	12-16-1993	0830	DW
Sodium	190.0	1	mg/l	EPA 273.1	12-16-1993	1430	DW
Solids, Settleable	<5.0	.5	mg/l	EPA 160.5	12-13-1993	0800	LS
Solids, Total Dissolved	1815	10	mg/l	EPA 160.1	12-13-1993	0930	LM
Solids, Total Suspended	48	4	mg/l	EPA 160.2	12-16-1993	1430	LM
Sulfate	900	1	mg/l	EPA 375.4	12-17-1993	1200	LS
Cation/Anion Balance	-6.60	----	%	---------	----------	-----	--

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306

Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

October 27, 1993

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

CH 5/X
DC
CW
5/20

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water — S-W-2

Sample taken at Wellington Wash Plant — Rec'd 0800 hr. Sampled 1355 hr.

Sample taken by CV Resources

Date sampled September 8, 1993

Date received September 9, 1993

Analysis report no. 59-13484

Parameter	Result	MDL	Units		Method	Analyzed Date/Time/Analyst		
Acidity	<1	1	mg/l	$CaCO_3$	EPA 305.1-M	09-14-1993	1030	LS
Alkalinity, Bicarbonate	334	2	mg/l	$CaCO_3$	EPA 310.1	09-14-1993	1030	LS
Alkalinity, Carbonate	0	1	mg/l	$CaCO_3$	EPA 310.1	09-14-1993	1030	LS
Alkalinity, Total	274	2	mg/l	$CaCO_3$	EPA 310.1	09-14-1993	1030	LS
Anions	30.01	----	meq/l		---------	----------	-----	--
Calcium	200.0	.03	mg/l		EPA 215.1	10-01-1993	1220	ED
Cations	29.32	----	meq/l		---------	----------	-----	--
Chloride	55.9	.5	mg/l		EPA 325.3	09-10-1993	1000	LM
Hardness, Total	911.2	.03	mg/l	$CaCO_3$	---------	10-01-1993	1220	ED
Iron	0.58	.05	mg/l		EPA 236.1	09-29-1993	1030	ED
Iron, Dissolved	<0.05	.05	mg/l		EPA 236.1	10-04-1993	0920	ED
Magnesium	100.00	.007	mg/l		EPA 242.1	10-01-1993	1410	ED
Manganese	0.03	.03	mg/l		EPA 243.1	09-30-1993	1545	ED
Oil & Grease	1	1	mg/l		EPA 413.1	09-17-1993	1000	LM
Potassium	6.0	.1	mg/l		EPA 258.1	10-01-1993	1700	ED
Sodium	255.0	.2	mg/l		EPA 273.1	10-01-1993	1550	ED
Solids, Settleable	<0.5	5	mg/l		EPA 160.5	09-09-1993	0830	LM
Solids, Total Dissolved	2134	14	mg/l		EPA 160.1	09-13-1993	0800	LM
Solids, Total Suspended	34	7	mg/l		EPA 160.2	09-13-1993	1410	LM
Sulfate	1100	1	mg/l		EPA 375.4	09-24-1993	0800	LS
Cation/Anion Balance	-1.16	----	%		---------	----------	-----	--

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Larry Stout

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
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Member of the SGS Group (Société Générale de Surveillance)

PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

June 23, 1993

SH 5/7

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

QC CW 5/20

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water

SW-2
Rec'd 1400 hr.
Sampled 1330 hr.

Sample taken at Wellington Wash Plant

Sample taken by CV Resources

Date sampled June 2, 1993

Date received June 2, 1993

Analysis report no. 59-13133

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Acidity	0	1	mg/l $CaCO_3$	EPA 305.1	06-15-1993 13:30 LS
Alkalinity, Bicarbonate	596	2	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Alkalinity, Carbonate	0	1	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Alkalinity, Total	489	2	mg/l $CaCO_3$	EPA 310.1	06-15-1993 13:30 LS
Anions	21.00	----	meq/l	---------	---------- ----- --
Calcium	136.0	.03	mg/l	EPA 215.1	06-21-1993 13:05 ED
Cations	20.54	----	meq/l	---------	---------- ----- --
Chloride	34.5	.5	mg/l	EPA 325.3	06-18-1993 12:00 LM
Hardness, Total	681	.03	mg/l $CaCO_3$	---------	06-21-1993 13:05 ED
Iron	3.23	.05	mg/l	EPA 236.1	06-17-1993 09:40 ED
Iron, Dissolved	0.23	.05	mg/l	EPA 236.1	06-22-1993 14:10 ED
Magnesium	82.90	.007	mg/l	EPA 242.1	06-21-1993 15:10 ED
Manganese	0.16	.03	mg/l	EPA 243.1	06-22-1993 10:05 ED
Oil & Grease	0.4	1	mg/l	EPA 413.1	06-11-1993 07:30 LM
pH	8.07	----	Units	EPA 150.1	06-02-1993 15:00 LM
Potassium	5.20	.1	mg/l	EPA 258.1	06-22-1993 12:20 ED
Sodium	158.40	.2	mg/l	EPA 273.1	06-22-1993 11:15 ED
Solids, Settleable	<0.5	.5	mg/l	EPA 160.5	06-03-1993 08:00 LS
Solids, Total Dissolved	1125.0	14	mg/l	EPA 160.1	06-08-1993 08:30 LM
Solids, Total Suspended	232.0	7	mg/l	EPA 160.2	06-08-1993 08:30 LM
Sulfate	500.0	1	mg/l	EPA 375.4	06-14-1993 12:40 LS
Cation/Anion Balance	-1.10	----	%	---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
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PLEASE ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

March 25, 1993

CASTLE VALLEY RESOURCES
P.O. Box 1282
Huntington, Utah 84528

CH 5/X

2e CW 5/20

Sample identification by
CASTLE VALLEY RESOURCES

Kind of sample reported to us Water

SW-2
Rec'd 1610 hr.
Sampled 0940 hr.

Sample taken at CVR

Sample taken by Larry Johnson

Date sampled March 3, 1993

Date received March 3, 1993

Analysis report no. 59-12919

Parameter	Result	MDL	Units	Method	Analyzed Date/Time/Analyst
Acidity	0	1	mg/l $CaCO_3$	EPA 305.1	03-11-1993 13:00 LS
Alkalinity, Bicarbonate	437	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Alkalinity, Carbonate	0	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Alkalinity, Total	359	1	mg/l $CaCO_3$	EPA 310.1	03-11-1993 13:00 LS
Anions	41.07	----	meq/l	---------	---------- ----- --
Calcium	214.0	.1	mg/l	EPA 215.1	03-16-1993 12:25 ED
Cations	39.13	----	meq/l	---------	---------- ----- --
Chloride	91.8	.1	mg/l	EPA 325.3	03-16-1993 09:00 LM
Conductivity	3070	2	umhos/cm	EPA 120.1	03-11-1993 09:00 LS
Hardness, Total	1138	1	mg/l $CaCO_3$	---------	03-16-1993 12:25 ED
Iron	4.56	.02	mg/l	EPA 236.1	03-15-1993 09:45 ED
Iron, Dissolved	2.16	.02	mg/l	EPA 236.1	03-15-1993 09:45 ED
Magnesium	146.50	.01	mg/l	EPA 242.1	03-16-1993 12:55 ED
Manganese	0.33	.01	mg/l	EPA 243.1	03-15-1993 09:45 ED
Oil & Grease	0.0	1	mg/l	EPA 413.1	03-10-1993 13:00 LM
pH	8.00	----	Units	EPA 150.1	03-03-1993 17:00 LM
Potassium	26.00	.01	mg/l	EPA 258.1	03-16-1993 12:25 ED
Sodium	366.00	.01	mg/l	EPA 273.1	03-16-1993 12:25 ED
Solids, Settleable	0.0	.5	mg/l	EPA 160.5	03-04-1993 08:00 LS
Solids, Total Dissolved	2531.0	.5	mg/l	EPA 160.1	03-05-1993 09:00 LM
Solids, Total Suspended	271.0	.5	mg/l	EPA 160.2	03-05-1993 09:00 LM
Sulfate	1500.0	.1	mg/l	EPA 375.4	03-16-1993 10:00 LS
Cation/Anion Balance	-2.57	----	%	---------	---------- ----- --

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

Manager, Huntington Laboratory

Analytical Report

SH 5-13

Mountain States Analytical

The Quality Solution

25445 03/24/92 1050 SW-2

Calcium, FAA w/ww	202	mg/l
Cation/Anion Balance	See Attach	---
Iron, FAA w/ww	0.58	mg/l
Magnesium, FAA w/ww	142	mg/l
Manganese, FAA w/ww	0.16	mg/l
Metals Digestion w/ww	Complete	---
Metals Prep. FAA	Complete	---
Potassium, FAA w/ww	8.80	mg/l
Sodium, FAA w/ww	282	mg/l
Alkalinity, Bicarbonate	325	mg/l CaCO3
Alkalinity, Carbonate	0	mg/l CaCO3
Chloride, Titrimetric w	65.4	mg/l
Hardness w/ww	1,150	mg/l CaCO3
OIL & GREASE, w/ww	<2	mg/l
Solids, Dissolved TDS	2,290	mg/l
SOLIDS, Settleable	0.1	ml/hr/l
Solids, Suspended (TSS)	64	mg/l
Sulfate, Turbidimetric	1,290	mg/l

Respectfully submitted,

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen, B.S.
Manager, Technical Operations

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

Mountain States Analytical

The Quality Solution

CH-13

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project: Castle Valley Quarterly

Date Samples Rec'd: 12/23/91
MSAI Group No.: 4953
Sample Matrix: Aqueous
Report Date: 01/07/92
P.O. Number:

LAB SAMPLE NO.	SAMP DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT		
23224	12/19/91	1452	SW-2 Downstream	Calcium, FAA w/ww	182	mg/l	
				Cation/Anion Balance	See Attach		
				Iron, FAA w/ww	0.73	mg/l	
				Magnesium, FAA w/ww	97.3	mg/l	
				Manganese, FAA w/ww	0.15	mg/l	
				Metals Digestion w/ww	Complete	---	
				Metals Prep. FAA	Complete	---	
				Potassium, FAA w/ww	7.52	mg/l	
				Sodium, FAA w/ww	282	mg/l	
				ALKALINITY, Bicarbonate	363	mg/l	CaCO3
				ALKALINITY, Carbonate	0	mg/l	CaCO3
				Chloride, Titrimetric	58.3	mg/l	
				Hardness w/ww	1,100	mg/l	CaCO3
				OIL & GREASE, w/ww	<2	mg/l	
				Solids, Dissolved TDS	1,850	mg/l	
				SOLIDS, Settleable	0.20	ml/hr/l	
				Solids, Suspended (TSS)	78	mg/l	
				Sulfate, Turbidimetric	1,180	mg/l	

Respectfully submitted,

Douglas W. Later

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

SH 5-13

MOUNTAIN STATES ANALYTICAL

ANALYTICAL REPORT

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-

Date Samples Rec'd: 03/25/91
MSAI Group No.: 3307

ATTN: Mr. Candy Manzanares
Project:

LAB SAMPLE NO.	DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
17343	03/19/91	840	SW2	Iron, FAA w/ww	1.15 mg/1
				Magnesium, FAA w/ww	128 mg/1
				Manganese, FAA w/ww	0.18 mg/1
				Potassium, FAA w/ww	6.45 mg/1
				Sodium, FAA w/ww	384 mg/1
				ALKALINITY, Bicarbonate	337 mg/1 CaCO3
				ALKALINITY, Carbonate	0 mg/1 CaCO3
				Chloride, Titrimetric	91.9 mg/1
				Hardness w/ww	1,300 mg/1 CaCO3
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Solids, Dissolved TDS	2,520 mg/1
				Solids, Suspended (TSS)	60 mg/1
				Sulfate, Turbidimetric	1,120 mg/1

Respectfully submitted,

Douglas W. Later

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-2
LOCATION:	LOWER PRICE RIVER
TYPE:	STREAM
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	03/12/98
Flow [cfs]	25.00
PH	8.60
Sp. Cond. [ohms]	1710.00
Temp. [C]	8.00
Diss. O [ppm]	8.60
Lab. Measurements [mg/l]	
Acidity	8.20
Al as HC03	392.00
Al as C03	<1
Al Total CaC03	321.00
Anions meg/l	30.50
Calcium	197.00
Cations meg/l	31.10
Chloride	64.00
Hard. Total	981.00
Iron	0.62
Iron Diss.	0.23
Magnesium	119.00
Manganese, Diss.	0.073
Oil & Grease	ND
Potassium, Total	8.40
Sodium, Total	258.00
Solids sett.	0.10
Sol. Tot. Diss.	1990.00
Sol. Tot. Sus.	16.00
Sulfate	1070.00
Cat/An Balance	0.93

MONITORING REPORT

Property: Castle Valley Resources
Station: SW-2
Location: Lower Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow (CFS)	51.50	286.00	50.00	33.33
PH	8.18	9.79	8.08	8.14
Sp. Cond. [ohms]	1,360.00	9,450.00	1,646.00	2,440.00
Temp. [C]	7.00	13.00	19.00	4.00
Diss. O [ppm]	7.50	6.40	6.40	8.00
Lab. Meas. [mg/l]				
Acidity			8.00	8.10
Al as HCO3	251.00	168.00	335.00	436.00
Al as C03	<1	66.90	<1	<1
Al Total CaC03	206.00	250.00	275.00	357.00
Anions	11.70	8.15	21.00	36.50
Calcium, Total	76.30	72.80	156.00	230.00
Cations	11.50	8.49	22.20	36.80
Chloride	31.10	13.90	46.00	124.00
Hard. Total	385.00	332.00	750.00	1,160.00
Iron, Total	29.30	21.00	0.66	0.36
Iron, Diss.	0.41	0.45	0.09	0.27
Magnesium	47.30	0.56	0.09	142.00
Manganese, Diss.	0.05	0.02	0.01	0.155
Oil & Grease	<1	<1	<.05	<1
Potassium, Total	3.99	3.05	4.60	7.60
Sodium	83.90	40.60	163.00	310.00
Sol. Set.	2.00	1.75	<0.1	<0.1
Sol. Tot. Diss.	736.00	470.00	1,660.00	2,310.00
Sol. Tot. Sus.	2,190.00	1,720.00	63.00	14.00
Sulfate	320.00	133.00	681.00	1,240.00
Cat/An Balance	0.95	2.04	2.92	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-2
Location: Lower Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow (CFS)	103.10	393.75		10.40	165.75
PH	6.85	7.08	7.90	7.60	7.36
Sp. Cond. [ohms]	1,600.00	1,100.00	2,600.00	4,130.00	2,357.50
Temp. [C]	6.00	12.00	15.00	6.00	9.75
Diss. O [ppm]	8.00	8.00	8.00	9.75	8.44
Lab. Meas. [mg/l]					
Acidity	[illegible].00	0.00	0.00	0.00	0.00
Al as HCO3	294.00	334.00	309.00	470	312.33
Al as C03	8.00	7.00	18.00	0.00	8.25
Al Total CaC03	255.00	286.00	283.00	390.00	303.50
Anions	12.30	11.10	29.10	40.90	23.35
Calcium, Total	98.00	113.00	179.00	250.00	160.00
Cations	13.10	12.80	28.80	40.00	23.68
Chloride	44.00	26.00	55.00	87.90	53.23
Hard. Total	450.00	490.00	875.00	1,240.00	763.75
Iron, Total	5.11	7.56	0.40	0.20	3.32
Iron, Diss.	<0.03	0.04	<0.1	0.00	0.02
Magnesium	[illegible]0.00	50.00	104.00	150.00	88.50
Manganese, Diss.	<0.04	<0.04	<0.1	0.23	<0.04
Oil & Grease	<2	<2	<2	<1.0	<2
Potassium, Total	4.20	4.60	7.00	7.43	5.81
Sodium	95.00	69.00	255.00	350.00	192.25
Sol. Set.	0.60	0.70	<0.5	<0.1	0.65
Sol. Tot. Diss.	703.00	642.00	1,923.00	2,700.00	1,492.00
Sol. Tot. Sus.	315.00	475.00	13.00	19.00	205.50
Sulfate	286.00	223.00	1,049.00	1,470.00	757.00
Cat/An Balance	3.30	7.20	-0.50	1.08	2.77

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-2
Location: Lower Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/28/95	Mean
Flow (CFS)	10.28	6.43	>10	3.82	6.84
PH	8.03	8.07	7.93	6.66	7.67
Sp. Cond. [ohms]	3,080.00	1,410.00	3,120.00	2,560.00	2,542.50
Temp. [F]	51.00	53.00	62.60	51.80	54.60
Diss. O [ppm]	8.00	7.60	9.80	8.00	8.35
Lab. Meas. [mg/l]					
Acidity	0.00	0.00	0.00	0.00	0.00
Al as HCO3	225.00	390.00	305.00	420.00	335.00
Al as C03	85.00	10.00	10.00	30.00	33.75
Al Total CaC03	320.00	335.00	265.00	395.00	328.75
Anions	25.20	13.40	20.10	37.60	24.08
Calcium	138.00	158.00	139.00	198.00	158.25
Cations	34.00	16.90	23.60	37.70	28.05
Chloride	100.00	29.00	51.00	82.00	65.50
Hard. Total	1,000.00	650.00	681.00	1,038.00	842.25
Iron	3.10	9.80	0.50	0.90	3.58
Iron, Diss.	<0.1	0.10	<0.1	<0.1	0.10
Magnesium	160.00	63.00	81.00	132.00	109.00
Manganese	0.20	0.30	<0.1	0.20	0.23
Oil & Grease	<5	<5	<5	<5	<5
Potassium	6.00	4.00	5.00	6.00	5.25
Sodium	320.00	88.00	229.00	389.00	256.50
Sol. Set.	0.60	1.50	<0.5	<0.5	1.05
Sol. Tot. Diss.	1,630.00	720.00	1,370.00	2,320.00	1,510.00
Sol. Tot. Sus.	140.00	1,005.00	15.00	15.00	293.75
Sulfate	760.00	280.00	642.00	1,317.00	749.75
Cat/An Balance	14.90	11.60	7.80		11.43

Wellington Prep 007/012

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-2
Location: Lower Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/04/94	04/13/94	10/12/94	11/29/94	Mean
Flow (CFS)	4.49	3.76	>10	>10	4.13
PH	8.01	7.33	6.90	7.93	7.54
Sp. Cond. [ohms]	2,230.00	3,930.00	4,480.00	5,130.00	3,942.50
Temp. [F]	41.36	51.80	59.00	39.20	47.84
Diss. O [ppm]	14.60	8.00	8.90	8.40	9.98
Lab. Meas. [mg/l]					
Acidity	0.00	0.00	0.00	0.00	0.00
Al as HCO3	330.00	455.00	490.00	415.00	422.50
Al as C03	0.00	0.00	0.00	0.00	0.00
Al Total CaC03	330.00	373.00	403.00	340.00	361.50
Anions	31.00	36.42	45.40	33.80	36.66
Calcium	163.90	146.00	191.00	198.00	174.73
Cations	26.60	37.46	39.30	32.90	34.07
Chloride	72.50	104.00	100.00	71.00	86.88
Hard. Total	890.00	1,010.00	1,100.00	950.00	987.50
Iron	0.65	0.85	1.00	1.50	1.00
Iron, Diss.	0.00	0.47	<0.2	<0.2	0.24
Magnesium	99.55	114.00	150.00	110.00	118.39
Manganese	0.16	0.19	<0.2	0.20	0.18
Oil & Grease	0.00	0.00	<5	<5	0.00
Potassium	6.26	5.90	9.00	7.00	7.04
Sodium	230.70	294.00	400.00	320.00	311.18
Sol. Set.	1.20	<0.1	<0.5	<0.5	1.20
Sol. Tot. Diss.	1,950.00	2,290.00	2,970.00	2,185.00	2,348.75
Sol. Tot. Sus.	52.00	13.00	47.00	88.00	50.00
Sulfate	1,070.00	1,250.00	1,660.00	1,200.00	1,295.00
Cat/An Balance	0.15	1.40	-7.30	-1.40	-1.79

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-2
Location: Lower Price River
Type: Stream
Frequency: Quarterly

Field Measurements	Date Sampled 03/08/92	06/16/92	09/28/92	12/07/92	Mean
Flow [cfs]	22.70	20.60	1.37	10.20	13.72
PH	7.16	8.70	8.70	7.40	7.99
Sp. Cond. [ohms]	1,700.00	2,400.00	1,940.00	1,740.00	1,945.00
Temp. [F]	47.12	70.10	61.00	36.00	53.56
Diss. O [ppm]	11.00	8.00	9.00	7.00	8.75
Lab. Meas. [mg/l]					
Al as HCO3	325.00	318.00	341.00	375.00	339.75
Al as C03	0.00	12.00	0.00	0.00	3.00
Al Total		273.00	280.00	308.00	287.00
Anions	34.00	41.30	43.26	23.23	35.45
Calcium	202.00	195.60	250.50	250.00	224.53
Cations	34.20	38.64	36.31	21.94	32.77
Chloride	65.40	85.00	150.00	90.00	97.60
Hard. Total	1,150.00	1,053.00	1,198.00	1,019.00	1,105.00
Iron	0.58	0.69	0.61	0.18	0.52
Magnesium	142.00	137.10	139.00	95.80	128.48
Manganese	0.16	0.10	0.12	0.75	0.28
Potassium	8.80	2.52	4.37	4.92	5.15
Sodium	282.00	408.10	285.50	33.80	252.35
Sol. Set.	0.10	0.00	0.00	0.00	0.03
Sol. Tot. Diss.	2,290.00	1,640.00	2,440.00	1,540.00	1,977.50
Sol. Tot. Sus.	64.00	87.00	80.00	91.00	80.50
Sulfate	1,290.00	1,600.00	1,600.00	700.00	1,297.50
Cat/An Balance			8.72	-2.84	2.94
Iron, Diss.			0.26	0.00	0.13
Oil & Grease	<2	0.40	0.00	0.00	0.13

92SW-2

1992 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-2

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	10,220			
PH	-	7.16			
SPECIFIC COND.	umhos/cm	1700			
TEMP.	o C	8.4			
DISSOLVED OXYGEN	ppm	11			
TOTAL SETTLEABLE SOLIDS	mg/l	.10			
TOTAL SUSPENDED SOLIDS	mg/l	64			
TOTAL DISSOLVED SOLIDS	mg/l	2290			
TOTAL HARDNESS	mg/l	1150			
CARBONATE	mg/l	0			
BICARBONATE	mg/l	325			
CALCIUM	mg/l	202			
CHLORIDE	mg/l	65.4			
IRON	mg/l	0.58			
MAGNESIUM	mg/l	142			
TOTAL MANGANESE	mg/l	0.16			
POTASSIUM	mg/l	8.80			
SODIUM	mg/l	282			
SULFATE	mg/l	1290			
OIL AND GREASE	mg/l	<2			
CATIONS	meg/l	34.2			
ANIONS	meg/l	34.0			

SW-2

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-2

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	8443	7783	5,655	7163
PH	-	7.46	7.42	7.38	7.40
SPECIFIC COND.	umhos/cm	1600	1500	2000	1300
TEMP.	o C	3.4	16.8	14.2	1.2
DISSOLVED OXYGEN	ppm	8	5	6	12
TOTAL SETTLEABLE SOLIDS	mg/l	0.2	<0.2		0.20
TOTAL SUSPENDED SOLIDS	mg/l	60	20	61	78
TOTAL DISSOLVED SOLIDS	mg/l	2520	2100	2560	1850
TOTAL HARDNESS	mg/l	1300	940		1100
CARBONATE	mg/l	0	0	0	0
BICARBONATE	mg/l	337	240	308	363
CALCIUM	mg/l	190	158	189	182
CHLORIDE	mg/l	91.9	67	64.5	58.3
IRON	mg/l	1.15	0.59	1.04	0.73
MAGNESIUM	mg/l	128	162	113	97.3
TOTAL MANGANESE	mg/l	0.18	0.05	0.13	0.15
POTASSIUM	mg/l	6.45	6.17	18.5	7.52
SODIUM	mg/l	384	231	424	282
SULFATE	mg/l	1120	931	1360	1180
OIL AND GREASE	mg/l	<2.0	2.29	<2	<2
CATIONS	meg/l	36.9	31.4	37.7	26.3
ANIONS	meg/l	31.4	25.2	35.2	31.0

90SW-2

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-2

PARAMETER	units	MARCH cfs	JUNE cfs	SEPT. cfs	DEC. cfs
FLOW	gpm	5265 11.73	3523 7.84	3042 6.77	2693 6.0
PH	-	9.40	8.85	8.8	7.72
SPECIFIC COND.	umhos/cm	-	2800	2000	900
TEMP.	o C	10.0	22	22	0.2
DISSOLVED OXYGEN	ppm	7	6	10	6
TOTAL SETTLEABLE SOLIDS	mg/l	0.4	<.01	0.2	0.2
TOTAL SUSPENDED SOLIDS	mg/l	84	<10	114	110
TOTAL DISSOLVED SOLIDS	mg/l	15900	2400	2730	1310
TOTAL HARDNESS	mg/l	1400	1200	1800	710
CARBONATE	mg/l	0	10.7	14.4	0
BICARBONATE	mg/l	299	195	290	295
CALCIUM	mg/l	149	173	210	150
CHLORIDE	mg/l	46.4	89.3	69.5	40.6
IRON	mg/l	0.31	0.62	1.95	1.96
MAGNESIUM	mg/l	72	114	140	70.7
TOTAL MANGANESE	mg/l	0.10	0.03	0.16	0.13
POTASSIUM	mg/l	7.46	6.08	9.87	6.11
SODIUM	mg/l	185	478	360	137
SULFATE	mg/l	802	1380	1530	552
OIL AND GREASE	mg/l	<2.0	3.16	3.06	<2.0
CATIONS	meg/l	21.6	39	38	19.5
ANIONS	meg/l	22.9	35.2	39	17.5

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 2

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

SH 5/7

SAMPLE LOCATION: SW - 2 * Parameters not available from lab

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				?						9400		
pH	standard				7.75						8.5		
Temp	o C				8						19		
Conductivity	umhos/cm				1600						4900		
Diss. Oxygen	ppm				>15						7		
Aluminum	mg/l				<.1						<0.10		
Arsenic	mg/l				<.01						<0.004		
Barium	mg/l				<.01						<0.10		
Bicarbonate	mg/l				270						354		
Boron	mg/l				0.18						0.54		
Cadmium	mg/l				<.01						<0.005		
Calcium	mg/l				144						260		
Carbonate	mg/l				0						0		
Chloride	mg/l				47.7						99.4		
Chromium	mg/l				<.01						<0.05		
Copper	mg/l				<.01						<0.03		
Flouride	mg/l				0.71						0.3		
Hardness	mg/l				530						1475		
Iron Total	mg/l				0.95						0.11		
Lead	mg/l				<.01						<0.05		
Magnesium	mg/l				105						200		
Manganese	mg/l				<.01						<0.01		
Mercury	mg/l				<.0002						<0.001		
Molybdenum	mg/l				<.01						<0.10		
Nickel	mg/l				<.01						<0.05		
Ammonia	mg/l				0.42						0.81		
Nitrate	mg/l				0.98						<0.05		
Nitrite	mg/l				0.805						1.63		
Oil & Grease	mg/l				<.5						<2.0		
Phosphate	mg/l				0.14						0.22		
Potassium	mg/l				5.1						10.1		
Selenium	mg/l				<.002						<0.004		
Sodium	mg/l				113						537		
Sulfate	mg/l				680						1978		
Sulfide	mg/l				<.1						<0.4		
TDS	mg/l				1220						2790		
TSS	mg/l				902						*		
Sett. Solids	mg/l				0.4						*		
Zinc	mg/l				<.01						<0.01		
C - A Balance	meq/l				2.21						*		

CH 5/7

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012

1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-2

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Flow (cfs)			200.		300.							<100.
pH			8.15		8.3							8.73
Temp. (^{o}C)												3.
Conductiv.			924.		765.							1900.
Aluminum			9.63		1.01							
Arsenic			0.004		0.001							
Barium			0.27		0.10							
Bicarbon.			282.		242.							509.
Boron			0.30		0.05							
Cadmium			<0.001		<0.005							
Calcium			58.		73.							87.9
Carbonate			<0.01		0.							0.
Chloride			24.1		15.							74.7
Chromium			0.030		<0.01							
Copper			0.06		<0.01							
Fluoride			0.19		0.55							
Hardness			372.		355.							1190.
Iron			19.10		6.70							0.72
Lead			0.168		<0.02							
Magnesium			54.50		42.							158.
Manganese			0.70		0.14							0.30
Mercury			<0.0002		<0.0002							
Molybdenum			0.05		<0.05							
Nickel			<0.01		<0.02							
Ammonia			0.49		0.14							
Nitrate			0.67		0.32							
Nitrite			<0.01									
Oil & Grease												<0.5
Phosphate			0.07		0.05							
Potassium			4.86		2.							8.9
Selenium			<0.001		0.002							
Sodium			60.		53.							320.
Sulfate			237.		189.							1260.
Sulfide			<0.10		<0.2							
TDS			585.		526.							2680.
TSS			1066.		370.							6.0
Sett. Solids												<0.1
Zinc			0.102		0.01							
C-A Balance					1.34							

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

CE RIVER-DOWNSTREAM
SW-2

Sampling Date	07-31-85	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow cfs	200.000	50.000	50.000	25	500	224	182
Aluminum, Al (Tot) mg/l	<.001	0.240	0.420	0.000	119.900	14.945	32.521
Ammonia, NH3-N mg/l	0.030	0.900	3.100	0.000	3.100	0.527	0.834
Arsenic, As (Tot) mg/l	0.002	<.001	<.001	0.000	0.016	0.006	0.007
Barium, Ba (Tot) mg/l	0.360	0.050	0.040	0.040	1.350	0.346	0.450
Bicarbonate, HCO3 mg/l	312.300	401.000	411.000	259.000	622.200	372.817	88.311
Boron as B (Tot) mg/l	0.320	0.340	0.359	0.175	0.729	0.365	0.145
Cadmium, Cd (Tot) mg/l	<.001	<.001	<.001	0.000	0.014	0.001	0.004
Calcium, Ca mg/l	176.000	236.000	196.000	76.000	236.000	155.548	43.939
Carbonate as CO3 mg/l	<.01	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	47.000	42.600	61.200	0.000	61.200	33.692	19.164
Chromium, Cr (Tot) mg/l	0.057	0.003	0.007	0.000	0.140	0.032	0.039
Conductivity umhos/cm	2980.000	3400.000	2700.000	850.000	3400.000	1955.000	862.327
Copper (Tot) mg/l	0.080	0.020	0.020	0.000	0.208	0.062	0.069
Fluoride, F mg/l	0.300	0.320	0.260	0.200	0.370	0.268	0.054
Hardness, CaCO3 mg/l	840.000	1150.000	1000.000	360.000	1150.000	710.500	248.043
Iron, Fe (Tot) mg/l	56.200	0.460	0.880	0.460	206.500	32.982	55.822
Lead, Pb (Tot) mg/l	0.037	0.007	0.002	0.002	0.390	0.057	0.107
Magnesium, Mg mg/l	96.000	134.400	122.400	24.000	134.400	77.283	36.014
Manganese, Mn (Tot) mgl	1.150	0.140	0.200	0.020	3.400	0.664	0.916
Mercury, Hg mg/l	<.0002	0.001	<.0002	0.000	0.001	.000	.000
ybdenum as Mo (Tot) mg/l	<.01	0.020	0.022	0.000	0.022	0.006	0.008
kel, Ni (Tot) mg/l	0.120	<.01	<.01	0.000	0.490	0.078	0.133
Nitrate, NO3-N mg/l	1.290	0.860	0.920	0.400	1.800	0.858	0.379
Nitrite as NO2-N mg/l	<.01	0.160	1.500	0.000	1.500	0.369	0.495
Phosphate PO4-P Ortho mg/l	0.050	0.400	0.640	0.020	5.080	0.612	1.363
Phosphate PO4-P Tot mg/l	2.700	0.500	0.880	0.000	6.400	1.133	1.732
Potassium, K mg/l	12.200	6.680	5.170	2.400	12.200	5.576	2.590
Selenium Se (Tot) mg/l	<.001	<.001	<.001	0.000	0.000	0.000	0.000
Sodium, Na mg/l	312.000	288.000	200.000	36.200	312.000	160.216	89.180
Sulfate, SO4 mg/l	1140.000	1320.000	995.000	180.000	1320.000	670.750	388.146
Sulfide as S mg/l	3.200	<.10	<.01	0.000	3.200	0.279	0.881
Suspended Solids mg/l	2299.000	20.000	77.000	20.000	9505.000	1864.833	2578.122
Total Dis. Solids mg/l	1930.000	2240.000	1944.000	550.000	2240.000	1309.333	574.943
Zinc, An (Tot) mg/l	0.266	0.020	0.024	0.008	0.948	0.171	0.251
pH Units	7.800	8.000	7.750	7.350	8.000	7.658	0.191

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

SHEET 17

E RIVER-DOWNSTREAM ***SW-2***									
Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-29-85	3-18-85	5-28-85
Flow cfs	25	300	500	500	500	60.000	100.000	100.000	300.000
Aluminum, Al (Tot) mg/l	0.080	12.190	12.200	119.900	26.000	2.770	1.080	0.960	3.500
Ammonia, NH3-N mg/l	0.140	0.700	(.10	0.120	0.100	(.01	0.600	0.600	0.030
Arsenic, As (Tot) mg/l	(.001	0.016	0.015	0.013	0.015	0.005	(0.001	0.006	(.001
Barium, Ba (Tot) mg/l	0.050	0.330	0.300	1.290	1.350	0.080	0.060	0.140	0.100
Bicarbonate, HCO3 mg/l	402.600	341.600	335.500	292.800	335.500	622.200	406.300	354.000	259.000
Boron as B (Tot) mg/l	0.460	0.440	0.500	0.729	0.323	0.206	0.240	0.291	0.175
Cadmium, Cd (Tot) mg/l	(.001	(.010	(.0010	0.003	0.014	(.001	(0.001	(.001	(.001
Calcium, Ca mg/l	176.000	76.000	160.000	176.000	128.000	118.400	120.500	196.900	106.770
Carbonate as CO3 mg/l	(.01	(.01	(.01	(.01	(.01	(.01	(0.01	(.01	(.01
Chloride, Cl mg/l	50.000	5.000	21.300	39.4	35.000	27.000	47.000	54.000	14.200
Chromium, Cr (Tot) mg/l	0.011	0.039	0.040	(.001	0.060	(.001	(0.001	0.140	0.032
Conductivity umhos/cm	2500	850	990	1900	1500	1200	1700	2850	890.000
Copper (Tot) mg/l	0.020	0.090	0.010	0.208	0.200	(.001	0.010	0.040	0.040
Fluoride, F mg/l	0.280	0.210	0.370	0.350	0.240	0.200	0.230	0.240	0.220
Hardness, CaCO3 mg/l	890	360	500	715	620	520	515	993	423.000
Iron, Fe (Tot) mg/l	0.920	22.000	44.200	206.500	45.500	3.390	1.360	10.300	4.070
Lead, Pb (Tot) mg/l	0.002	0.036	0.021	0.390	0.140	0.017	0.015	0.004	0.010
Magnesium, Mg mg/l	108.000	40.800	24.000	66.000	72.000	52.800	51.500	120.800	38.690
Manganese, Mn (Tot) mgl	0.140	0.980	0.020	3.400	1.110	0.190	0.140	0.360	0.140
Mercury, Hg mg/l	(.0002	(.0002	(.0002	(.0002	(.0002	(.0002	(0.0002	(.0002	(.0002
ybdenum as Mo (Tot) mg/l	.015	(.001	(.001	0.012	0.013	0.004	(0.05	(.001	(.001
kel, Ni (Tot) mg/l	0.040	0.070	0.070	0.490	0.140	(.01	(0.01	(.01	(.01
Nitrate, NO3-N mg/l	0.950	0.650	0.770	0.550	1.070	0.520	0.400	1.800	0.510
Nitrate as NO2-N mg/l	0.010	(.01	0.710	0.080	1.180	0.070	0.620	0.060	0.040
Phosphate PO4-P Ortho mg/l	0.550	0.040	0.030	0.030	0.140	0.140	5.080	0.220	0.020
Phosphate PO4-P Tot mg/l	0.460	0.030	0.050	6.400	0.220	0.680	(0.001	0.780	0.890
Potassium, K mg/l	6.400	2.600	2.400	7.850	6.350	3.950	5.080	5.270	2.960
Selenium Se (Tot) mg/l	(.001	(.001	(.001	(.001	(.001	(.001	(0.001	(.001	(.001
Sodium, Na mg/l	221.000	56.000	36.200	125.000	130.000	98.000	182.500	229.000	44.890
Sulfate, SO4 mg/l	910	199	250	680	550	180	490	1065	270.000
Sulfide as S mg/l	0.100	0.050	(.01	(.01	(.01	(.01	(0.01	(.01	(.01
Suspended Solids mg/l	21.0	1369.0	1896.0	9505.0	3488.0	301.0	69.0	533.0	2800.000
Total Dis. Solids mg/l	1670	550	644	1250	1128	786	1140	1850.000	580.000
Zinc, Zn (Tot) mg/l	0.030	0.190	0.010	0.948	0.262	0.056	0.008	0.093	0.148
pH Units	7.600	7.600	7.600	7.400	7.350	7.600	7.950	7.750	7.500

03-Jan-86

E.I.S. Hydrology
Field Measurements Form

Date 3/12/98 Station # SCW-2A

Company EARTHCO-WELLINGTON LOADOUT SITE

Time 11:40

Flow/Depth 2' x 4' x 3.5 fps - 28 CFS

pH 8.67

Specific Conductivity 1850

Water Temperature 8. °C

Air Temperature 47

Dissolved Oxygen 8.2

Type: Spring___ Stream X Well___ Discharge___ NPDES___

Collection Point Div. Prong River

Appearance of Water: Clear___ Milky X Cloudy___ Opaque___

Quality Sample Taken: Yes X No___

Pump Reading

Comments

Field Monitor

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter·Mountain Laboratories, Inc.

MB 6-23-98

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Wellington Loadout Site
Sample ID: SW-2A
Lab ID: 0398W01232
Matrix: Water
Condition: Cool/Intact

Date Received: 03/17/98
Date Reported: 04/06/98
Date Sampled: 03/12/98
Time Sampled: 1140

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.2	s.u.			0.1	EPA 150.1	03/17/98	1600	AP
Electrical Conductivity	2,490	µmhos/cm			10	EPA 120.1	03/17/98	1600	AP
Solids - Total Dissolved	2,000	mg/L			10	EPA 160.1	03/19/98	0800	BJ
Solids - Total Suspended	11	mg/L			2	EPA 160.2	03/23/98	0915	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	03/17/98	1430	CR
Alkalinity	321	mg/L			1	EPA 310.1	03/22/98	0900	AP
Hardness	980	mg/L			1	Calculation	03/31/98	1245	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	392	mg/L	6.42	meq/L	1	EPA 310.1	03/22/98	0900	AP
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Chloride	60	mg/L	1.70	meq/L	1	EPA 300.0	03/19/98	0800	AP
Sulfate	1,070	mg/L	22.2	meq/L	5	EPA 300.0	03/19/98	0800	AP
MAJOR CATIONS									
Calcium	198	mg/L	9.88	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Magnesium	118	mg/L	9.71	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Potassium	7.2	mg/L	0.18	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
Sodium	248	mg/L	10.8	meq/L	0.4	EPA 200.7	03/20/98	0900	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			30.6	meq/L	N/A	Calculation	03/31/98	1245	JG
Anion Sum			30.3	meq/L	N/A	Calculation	03/31/98	1245	JG
Cation/Anion Balance			0.410	%	N/A	Calculation	03/31/98	1245	JG
DISSOLVED METALS									
Boron	0.31	mg/L			0.05	EPA 200.7	03/18/98	0700	ST
Iron	0.25	mg/L			0.02	EPA 200.7	03/18/98	0700	ST
Manganese	0.041	mg/L			0.005	EPA 200.7	03/18/98	0700	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/25/98	1115	AL
TOTAL METALS									
Boron	0.31	mg/L			0.05	EPA 200.7	03/20/98	1400	ST
Iron	0.60	mg/L			0.02	EPA 200.7	03/20/98	1400	ST
Manganese	3.25	mg/L			0.005	EPA 200.7	03/20/98	1400	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/20/98	1100	AL

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: JG

John Green, Water Lab Supervisor

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-2A
Lab ID: 0397W02845
Matrix: Water
Condition: Cool/Intact

WB 2-17-98

Date Received: 12/05/97
Date Reported: 01/03/98
Date Sampled: 12/02/97
Time Sampled: 0949

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.2	s.u.			0.1	EPA 150.1	12/05/97	1600	AP
Electrical Conductivity	2,820	µmhos/cm			10	EPA 120.1	12/05/97	1600	AP
Solids - Total Dissolved	2,310	mg/L			10	EPA 160.1	12/08/97	0810	BJ
Solids - Total Suspended	14	mg/L			2	EPA 160.2	12/10/97	1010	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	12/05/97	1300	CR
Alkalinity	349	mg/L			1	EPA 310.1	12/12/97	0942	BJ
Hardness	1,160	mg/L			1	Calculation	12/22/97	1400	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	425	mg/L	6.97	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Chloride	125	mg/L	3.53	meq/L	1	EPA 300.0	12/10/97	1400	AP
Sulfate	1,240	mg/L	25.8	meq/L	5	EPA 375.4	12/16/97	0900	AP
MAJOR CATIONS									
Calcium	230	mg/L	11.5	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Magnesium	143	mg/L	11.8	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Potassium	7.2	mg/L	0.18	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Sodium	329	mg/L	14.3	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			37.7	meq/L	N/A	Calculation	12/22/97	1400	JG
Anion Sum			36.3	meq/L	N/A	Calculation	12/22/97	1400	JG
Cation/Anion Balance			1.96	%	N/A	Calculation	12/22/97	1400	JG
DISSOLVED METALS									
Boron	0.34	mg/L			0.05	EPA 200.7	12/08/97	1519	ST
Iron	0.28	mg/L			0.02	EPA 200.7	12/08/97	1519	ST
Manganese	0.153	mg/L			0.005	EPA 200.7	12/08/97	1519	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/09/97	1515	AL
TOTAL METALS									
Boron	0.35	mg/L			0.05	EPA 200.7	12/17/97	1616	ST
Iron	0.62	mg/L			0.02	EPA 200.7	12/17/97	1616	ST
Manganese	0.154	mg/L			0.005	EPA 200.7	12/17/97	1616	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/15/97	1200	AL

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: John Green

John Green, Water Lab Supervisor

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-2A
LOCATION:	LOWER PRICE RIVER
TYPE:	STREAM
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	**03/12/98**
Flow [cfs]	28.00
PH	8.67
Sp. Cond. [ohms]	1850.00
Temp. [C]	8.00
Diss. O [ppm]	8.20
Lab. Measurements [mg/l]	
Acidity	8.20
Al as HC03	392.00
Al as C03	<1
Al Total CaC03	321.00
Anions meg/l	30.30
Calcium	198.00
Cations meg/l	30.60
Chloride	60.00
Hard. Total	980.00
Iron	0.60
Iron Diss.	0.25
Magnesium	118.00
Manganese, Diss.	0.041
Oil & Grease	ND
Potassium, Total	7.20
Sodium, Total	248.00
Solids sett.	<0.1
Sol. Tot. Diss.	2000.00
Sol. Tot. Sus.	11.00
Sulfate	1070.00
Cat/An Balance	0.41

WATER MONITORING REPORT - 1997

PROPERTY: CASTLE VALLEY RESOURCES
STATION: SW-2A
LOCATION: BELOW OLD DIVERSION DAM
TYPE:
FREQUENCY: QUARTERLY

	DATE SAMPLED			
Field Measurements	**03/24/97**	**05/14/97**	**08/20/97**	**12/02/97**
Flow [CFS]	N/A	N/A	N/A	27
PH				8.16
Sp. Cond. [ohms]				2830
Temp. [C]				3
Diss. O [ppm]				7
Lab. Measurements [mg/l]				
Al as HC03				425
Al as CO3				<1
Al Total				349
Anions meg/l				36.3
Calcium				230
Cations meg/l				37.7
Chloride				125
Hard. Total				1160
Iron				0.62
Iron, Diss.				0.28
Magnesium				143
Manganese, Diss.				0.153
Potassium, Total				7.2
Sodium, Diss.				329
Solids sett.				<0.1
Sol. Tot. Diss.				2310
Sol. Tot. Sus.				14
Sulfate				1240
Oil & Grease				<1
Cat/An Balance				1.96

QC MB 6-4

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 Station # SW-3

Company Earthco

Time 1030 HRS

CM 3/13

Flow/Depth

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No ✓

Pump Reading

Comments

Field Monitor Mike Hubbard

When Sample or Measurements Not Taken:

Reason: Dry

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-3
LOCATION:	DIVER DITCH UPSTREAM
TYPE:	DITCH
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	**03/12/98**
Flow [gpm]	DRY
PH	
Sp. Cond. [ohms]	
Temp. [F]	
Diss. O [ppm]	
Lab. Measurements [mg/l]	
Al as HC03	
Al as C03	
Al Total CaC03	
Anions meg/l	
Calcium	
Cations meg/l	
Chloride	
Hard. Total	
Iron	
Magnesium	
Manganese, Diss.	
Potassium, Total	
Sodium, Total	
Solids sett.	
Sol. Tot. Diss.	
Sulfate	
Mn	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-3
Location: Diver. Ditch Upstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow [gpm]	DRY	Dry	DRY	DRY
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				
Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol. Set.				
Sol. Tot. Diss.				
Sulfate				
Mn				

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-3
Location: Diver. Ditch Upstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sulfate					
Mn					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-3
Location: Diver. Ditch Upstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sulfate					
Mn					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-3
Location: Diver. Ditch Upstream
Type: Ditch
Frequency: Quarterly

from multi-site pg.

Field Measurements	Date Sampled 03/04/94	04/13/94	00/00/94	~~00/00~~ 11/29/94	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					

Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sulfate					
Mn					

91SW-3

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-3

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-3

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-3

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meg/l				
ANION BALANCE	meg/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 3

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)			0									
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

CJH 5/8

SAMPLE LOCATION: SW - 3

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				Dry						Dry		
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

3H 5/8

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012
1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-3

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Flow (gpm)			0		0							0
pH												
Temp. (°C)												
Conductiv.												
Aluminum												
Arsenic												
Barium												
Bicarbon.												
Boron												
Cadmium												
Calcium												
Carbonate												
Chloride												
Chromium												
Copper												
Fluoride												
Hardness												
Iron												
Lead												
Magnesium												
Manganese												
Mercury												
Molybdenum												
Nickel												
Ammonia												
Nitrate												
Nitrite												
Oil & Grease												
Phosphate												
Potassium												
Selenium												
Sodium												
Sulfate												
Sulfide												
TDS												
TSS												
Sett. Solids												
Zinc												
C-A Balance												

MB 11-23-98

E.I.S. Hydrology
Field Measurements Form

Date 3/15/98 Station # [illegible]

Company EARTHCO-WELLINGTON LOADOUT SITE

Time 12:43

Flow/Depth 1.25 gpm

pH 8.2

Specific Conductivity 39/[illegible]

Water Temperature 8.2

Air Temperature 49

Dissolved Oxygen 8.1

Type: Spring___ Stream ✓ Well___ Discharge___ NPDES___

Collection Point Culvert

Appearance of Water: Clear ✓ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor [signature]

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

B 4-23-98

Client: EARTHCO
Project: Wellington Loadout Site
Sample ID: SW-4
Lab ID: 0398W01233
Matrix: Water
Condition: Cool/Intact

Date Received: 03/17/98
Date Reported: 04/06/98
Date Sampled: 03/12/98
Time Sampled: 1243

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	7.9	s.u.			0.1	EPA 150.1	03/17/98	1600	AP
Electrical Conductivity	5,090	µmhos/cm			10	EPA 120.1	03/17/98	1600	AP
Solids - Total Dissolved	4,710	mg/L			10	EPA 160.1	03/19/98	0800	BJ
Solids - Total Suspended	32	mg/L			2	EPA 160.2	03/23/98	0915	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	03/17/98	1430	CR
Alkalinity	338	mg/L			1	EPA 310.1	03/22/98	0900	AP
Hardness	2,180	mg/L			1	Calculation	03/31/98	1245	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	412	mg/L	6.75	meq/L	1	EPA 310.1	03/22/98	0900	AP
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	03/22/98	0900	AP
Chloride	92	mg/L	2.59	meq/L	1	EPA 300.0	03/19/98	0800	AP
Sulfate	2,830	mg/L	59.0	meq/L	5	EPA 300.0	03/19/98	0800	AP
MAJOR CATIONS									
Calcium	520	mg/L	26.0	meq/L	1	EPA 200.7	03/20/98	0900	ST
Magnesium	215	mg/L	17.7	meq/L	1	EPA 200.7	03/20/98	0900	ST
Potassium	14	mg/L	0.36	meq/L	1	EPA 200.7	03/20/98	0900	ST
Sodium	575	mg/L	25.0	meq/L	1	EPA 200.7	03/20/98	0900	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			69.0	meq/L	N/A	Calculation	03/31/98	1245	JG
Anion Sum			68.3	meq/L	N/A	Calculation	03/31/98	1245	JG
Cation/Anion Balance			0.510	%	N/A	Calculation	03/31/98	1245	JG
DISSOLVED METALS									
Boron	0.54	mg/L			0.05	EPA 200.7	03/18/98	0700	ST
Iron	0.09	mg/L			0.02	EPA 200.7	03/18/98	0700	ST
Manganese	0.283	mg/L			0.005	EPA 200.7	03/18/98	0700	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/25/98	1115	AL
TOTAL METALS									
Boron	0.49	mg/L			0.05	EPA 200.7	03/20/98	1400	ST
Iron	0.36	mg/L			0.02	EPA 200.7	03/20/98	1400	ST
Manganese	0.515	mg/L			0.005	EPA 200.7	03/20/98	1400	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	03/20/98	1100	AL

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: _____
John Green, Water Lab Supervisor

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

NB 2-16-98

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-4
Lab ID: 0397W02846
Matrix: Water
Condition: Cool/Intact

Date Received: 12/05/97
Date Reported: 01/03/98
Date Sampled: 12/02/97
Time Sampled: 0840

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	7.9	s.u.			0.1	EPA 150.1	12/05/97	1600	AP
Electrical Conductivity	4,580	µmhos/cm			10	EPA 120.1	12/05/97	1600	AP
Solids - Total Dissolved	4,190	mg/L			10	EPA 160.1	12/08/97	0810	BJ
Solids - Total Suspended	20	mg/L			2	EPA 160.2	12/10/97	1010	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	12/05/97	1300	CR
Alkalinity	328	mg/L			1	EPA 310.1	12/12/97	0942	BJ
Hardness	1,880	mg/L			1	Calculation	12/22/97	1400	JG
MAJOR ANIONS									
Bicarbonate (HCO3)	400	mg/L	6.55	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	12/12/97	0942	BJ
Chloride	60	mg/L	1.70	meq/L	1	EPA 300.0	12/10/97	1400	AP
Sulfate	2,480	mg/L	51.6	meq/L	5	EPA 375.4	12/16/97	0900	AP
MAJOR CATIONS									
Calcium	451	mg/L	22.5	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Magnesium	183	mg/L	15.1	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Potassium	12.6	mg/L	0.32	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
Sodium	618	mg/L	26.9	meq/L	0.2	EPA 200.7	12/08/97	1300	ST
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			64.8	meq/L	N/A	Calculation	12/22/97	1400	JG
Anion Sum			59.8	meq/L	N/A	Calculation	12/22/97	1400	JG
Cation/Anion Balance			3.96	%	N/A	Calculation	12/22/97	1400	JG
DISSOLVED METALS									
Boron	0.45	mg/L			0.05	EPA 200.7	12/08/97	1522	ST
Iron	<0.02	mg/L			0.02	EPA 200.7	12/08/97	1522	ST
Manganese	0.155	mg/L			0.005	EPA 200.7	12/08/97	1522	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/09/97	1515	AL
TOTAL METALS									
Boron	0.47	mg/L			0.05	EPA 200.7	12/17/97	1618	ST
Iron	0.03	mg/L			0.02	EPA 200.7	12/17/97	1618	ST
Manganese	0.154	mg/L			0.005	EPA 200.7	12/17/97	1618	ST
Selenium	<0.005	mg/L			0.005	SM 3114 B	12/15/97	1200	AL

Temp 4°C
Flow 3 gpm
pH 7.81

Cond 3960
DO 8

From miner spreadsheet in "multi-sites per page" section NB

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.
SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF,19th Edition, 1995.

Reviewed By: John Green
John Green, Water Lab Supervisor

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

2-16-98

TOTAL OIL AND GREASE
EPA METHOD 413.2

Client: Earthco
Project: CVR Property
Matrix: Water
Condition: Intact/Cool

Date Reported: 12/30/97
Date Sampled: 12/18/97
Date Received: 12/22/97
Date Extracted: 12/30/97
Date Analyzed: 12/30/97

Sample ID	Lab ID	Result (mg/L)	Detection Limit (mg/L)
SW-4	0397G03056	ND	1.0

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil And Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.
Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: NEICO
Project: Surface Water
Sample ID: SW-4
Lab ID: 0397W01806
Matrix: Water
Condition: Intact

11/3

QC MB 12-3-97

Date Received: 08/26/97
Date Reported: 09/26/97
Date Sampled: 08/19/97
Time Sampled: 1130

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	7.7	s.u.	<0.01	meq/L	0.1	EPA 150.1	08/26/97	1552	BC
Electrical Conductivity	4,380	µmhos/cm			10	EPA 120.1	08/26/97	1552	BC
68 Solids - Total Dissolved	4,300	mg/L			10	EPA 160.1	09/02/97	1305	AP
16 Solids - Total Suspended	12	mg/L			2	EPA 160.2	08/27/97	1455	BC
99 Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	08/27/97	1010	CR
62 Alkalinity (CaCO3)	364	mg/L			1	EPA 310.1	08/29/97	1115	BC
63 Hardness (CaCO3)	1,870	mg/L			1	Calculation	09/22/97	1325	JG
MAJOR ANIONS									
50 Bicarbonate (HCO3)	444	mg/L	7.28	meq/L	1	EPA 310.1	08/29/97	1115	BC
52 Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
55 Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	08/29/97	1115	BC
53 Chloride	110	mg/L	3.11	meq/L	1	EPA 300.0	09/03/97	1300	AP
60 Sulfate	2,110	mg/L	44.0	meq/L	5	EPA 300.0	09/03/97	1300	AP
MAJOR CATIONS									
2[illegible] Calcium	437	mg/L	21.8	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2[illegible] Magnesium	189	mg/L	15.6	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2005 Potassium	15.9	mg/L	0.41	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
2006 Sodium	638	mg/L	27.7	meq/L	0.2	EPA 200.7	09/15/97	1249	MS
CATION / ANION BALANCE QC INFORMATION									
133 Cation Sum			65.5	meq/L	N/A	Calculation	09/22/97	1325	JG
134 Anion Sum			54.4	meq/L	N/A	Calculation	09/22/97	1325	JG
Cation/Anion Balance			9.32	%	N/A	Calculation	09/22/97	1325	JG
DISSOLVED METALS									
34 Boron	0.660	mg/L			0.05	EPA 200.7	09/16/97	0700	SW
40 Iron	<0.020	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
43 Manganese	0.270	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
46 Selenium	<0.005	mg/L			0.005	EPA 270.3	08/28/97	1045	AL
TOTAL METALS									
100 Boron	0.610	mg/L			0.05	EPA 200.7	09/11/97	0935	MS
145 Iron	<0.02	mg/L			0.02	EPA 200.7	09/11/97	0935	MS
149 Manganese	0.300	mg/L			0.005	EPA 200.7	09/11/97	0935	MS
153 Selenium	<0.005	mg/L			0.005	EPA 270.3	09/05/97	1945	AL

Temp 19°C
Flow 1.5 gpm
pH 8.2
SpC. 3510

DO 3.2 ppm

See multi sites per pg section for field data. And T-oil + Grease

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: _____
Wes Harvey, Laboratory Manager

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: NEICO
Project: Surface Water
Sample ID: SW-4
Lab ID: 0397W00864
Matrix: Water
Condition: Intact

CM 8/1

QC MB 9-9-97

Date Received: 05/19/97
Date Reported: 06/23/97
Date Sampled: 05/14/97
Time Sampled: 1000

Parameter	Analytical Result	Units		Units	PQL	Method	Analysis Date	Time	Init.
GENERAL PARAMETERS									
pH	8.1	s.u.			0.1	EPA 150.1	05/19/97	1200	BJ
Electrical Conductivity	5,100	µmhos/cm			10	EPA 150.1	05/19/97	1200	BJ
Solids - Total Dissolved	4,820	mg/L			10	EPA 160.1	05/19/97	1545	BJ
Solids - Total Suspended	<2	mg/L			2	EPA 160.2	05/22/97	0940	BJ
Solids - Settleable	<0.1	mL/L			0.1	EPA 160.5	05/20/97	0915	CR
Alkalinity (CaCO3)	347	mg/L			1	EPA 310.1	05/21/97	1405	BJ
Hardness (CaCO3)	1,835	mg/L			0.2	Calculation	05/18/97	0949	JW
Oil & Grease (Water)	<1	mg/L			1	EPA 413.2	05/22/97	0900	SW
MAJOR ANIONS									
Bicarbonate (HCO3)	423	mg/L	6.93	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Carbonate (CO3)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Hydroxide (OH)	<1	mg/L	<0.01	meq/L	1	EPA 310.1	05/21/97	1405	BJ
Chloride	73.3	mg/L	2.07	meq/L	1	EPA 325.2	05/22/97	1547	BJ
Sulfate	2,885	mg/L	60.1	meq/L	5	EPA 375.3	05/20/97	1412	BJ
MAJOR CATIONS									
Calcium	426	mg/L	21.3	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Magnesium	187	mg/L	15.4	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Potassium	14.9	mg/L	0.38	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
Sodium	709	mg/L	30.9	meq/L	0.2	EPA 200.7	05/18/97	0949	JW
CATION / ANION BALANCE QC INFORMATION									
Cation Sum			67.9	meq/L	0.01	Calculation			
Anion Sum			69.1	meq/L	0.01	Calculation			
Cation/Anion Balance			0.82	%	0.01	Calculation			
DISSOLVED METALS									
Boron	0.66	mg/L			0.1	EPA 200.7	05/20/97	1117	JW
Iron	<0.02	mg/L			0.02	EPA 200.7	05/18/97	1117	JW
Manganese	0.085	mg/L			0.005	EPA 200.7	05/18/97	1117	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	05/21/97	1312	GB
TOTAL METALS									
Boron	0.69	mg/L			0.1	EPA 200.7	05/29/97	1401	JW
Iron	<0.02	mg/L			0.02	EPA 200.7	05/29/97	1401	JW
Manganese	0.081	mg/L			0.005	EPA 200.7	05/29/97	1401	JW
Selenium	<0.005	mg/L			0.005	EPA 270.3	06/03/97	1150	AL

* SEE MULTI-SITES / PAGE SECTION FOR FIELD DATA

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: GB

Gloria Bartlett, Asst. Lab Manager

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: EARTHCO
Project: Castle Valley Resources SW
Sample ID: SW-4
Lab ID: 0397W00455
Matrix: Water
Condition: Cool/Intact

QC 5/5/97 CWL 5.2

Date Received: 03/27/97
Date Reported: 04/11/97
Date Sampled: 03/24/97
Time Sampled: 1130

Parameter	Analytical Result	Units		Units
GENERAL PARAMETERS				
pH	7.9	s.u.		
Electrical Conductivity	4,940	µmhos/cm		
Solids - Total Dissolved	4,666	mg/L		
Solids - Total Suspended	8	mg/L		
Solids - Settleable	<0.1	mL/L		
Alkalinity	314	mg/L		
Hardness	1,729	mg/L		
Oil & Grease	<1	mg/L		
MAJOR ANIONS				
Bicarbonate (HCO3)	383	mg/L	6.28	meq/L
Carbonate (CO3)	<1	mg/L	<0.03	meq/L
Hydroxide (OH)	<1	mg/L	<0.06	meq/L
Chloride	71.8	mg/L	2.03	meq/L
Sulfate	3,012	mg/L	62.7	meq/L
MAJOR CATIONS				
Calcium	396	mg/L	19.8	meq/L
Magnesium	180	mg/L	14.8	meq/L
Potassium	14.6	mg/L	0.37	meq/L
Sodium	677	mg/L	29.4	meq/L
CATION / ANION BALANCE QC INFORMATION				
Cation Sum			64.4	meq/L
Anion Sum			71.0	meq/L
Cation/Anion Balance			4.90	%
DISSOLVED METALS				
Boron	0.51	mg/L		
Iron	<0.02	mg/L		
Manganese	0.14	mg/L		
Selenium	<0.005	mg/L		
TOTAL METALS				
Boron	0.57	mg/L		
Iron	0.09	mg/L		
Manganese	0.13	mg/L		
Selenium	<0.005	mg/L		

Reference: EPA - "Methods for Chemical Analysis of Water and Wastes", United States Environmental Protection Agency, EPA 600/4-79-020, Revised March, 1983.

Reviewed By: GB

Gloria Bartlett, Asst. Lab Manager

QC MB 12-4

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 CM 3/13 Station # ~~SW-3~~ SW-4

Company Earthco

Time 11:35

Flow/Depth ~~0.25~~ 0.25 gpm

pH 8.1

Specific Conductivity 2.76 x 1000

Water Temperature 6.0 C°

Air Temperature

Dissolved Oxygen ~~[illegible]~~ 8.0, 9.5, 9.0 ≈ 8.75

Type: Spring___ Stream X → Stoptimes Ditch Well___ Discharge___ NPDES___

Collection Point Simpkins Ditch - @ culvert

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes ✓ No___

Pump Reading

Comments

Field Monitor O.S.

When Sample or Measurements Not Taken:

Reason:

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**EarthCo**		
Project:	Wellington - Castle Valley Resources Surface Water	Date Reported:	01/14/97
Sample ID:	SW [redacted]	Date Sampled:	12/16/969
Laboratory ID:	0396W02741	Time Sampled:	11:30 AM
Sample Matrix:	Water	Date Received:	12/19/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units		Units
Lab pH	7.7	s.u.		
Lab Conductivity @ 25° C	4,840	umhos/cm		
Total Dissolved Solids @ 180°C	4,560	mg/L		
Total Dissolved Solids (Calc)	4,350	mg/L		
Total Suspended Solids	7	mg/L		
Settleable Solids	<0.1	ml/L		
Total Alkalinity as CaCO3	360	mg/L		
Total Hardness as CaCO3	1,680	mg/L		
Oil & Grease	<1.0	mg/L		
Bicarbonate as HCO3	440	mg/L	7.25	meq/L
Carbonate as CO3	<1.00	mg/L	<0.01	meq/L
Hydroxide as OH	<1.00	mg/L	<0.01	meq/L
Chloride	53.4	mg/L	1.51	meq/L
Sulfate	2,790	mg/L	58.2	meq/L
Calcium	380	mg/L	18.8	meq/L
Magnesium	180	mg/L	14.7	meq/L
Potassium	12.1	mg/L	0.31	meq/L
Sodium	710	mg/L	31.0	meq/L
Cations			64.9	meq/L
Anions			67.0	meq/L
Cation/Anion Difference			1.60	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by

Inter-Mountain Laboratories, Inc.

QC MB 6-4

2506 W. Main Street
Farmington, New Mexico 87401

Client:	EarthCo		
Project:	Wellington - Castle Valley Resources Surface Water	Date Reported:	01/14/97
Sample ID:	SW #4	Date Sampled:	12/16/969
Laboratory ID:	0396W02741	Time Sampled:	11:30 AM
Sample Matrix:	Water	Date Received:	12/19/96
Condition:	Cool/Intact		

CM 3/13

Parameter	Dissolved Analytical Result	Total Analytical Result	Units
Trace Metals			
Boron	0.51	0.53	mg/L
Iron	<0.025	<0.025	mg/L
Manganese	0.13	0.12	mg/L
Selenium	<0.005	<0.005	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: *Dissolved Mn > Total Mn, but within laboratory tolerances.

Reported by WM

Reviewed by SB

COMMERCIAL TESTING & ENGINEERING CO.
GENERAL OFFICES: 1919 SOUTH HIGHLAND AVE., SUITE 210-B, LOMBARD, ILLINOIS 60148 • TEL: 708-953-9300 FAX: 708-953-9306
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P.O. BOX 1020, HUNTINGTON, UT 84528
TEL: (801) 653-2311
FAX: (801) 653-2436

September 10, 1996

NEICO
6226 W. SAHARA AVENUE
P.O. BOX 230, MAIL STATION 30
LAS VEGAS, NEVADA 89151
LINDA DASILVA

Sample identification by
NEICO

Kind of sample reported to us: Water — SW-4

Sample taken at: Rec'd 1331 hr. Sampled 1004 hr.

Sample taken by: EIS

Date sampled: August 20, 1996

Date received: August 20, 1996

Analysis report no. 59-16375

Parameter	Result	MRL	Units	Method	Analyzed Date/Time/Analyst
Alkalinity, Bicarbonate	489	5	mg/l as HCO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Carbonate	19	5	mg/l as CO_3	SM2320-B	08-22-1996 0800 SW
Alkalinity, Total	433	5	mg/l as $CaCO_3$	EPA 310.1	08-22-1996 0800 SW
Anions	70.5	----	meq/l	---------	09-06-1996 1430 JJ
Calcium, Total	445	2	mg/l	EPA 215.1	08-29-1996 0830 MK
Cations	79.4	----	meq/l	---------	09-06-1996 1430 JJ
Chloride	68	1	mg/l	SM4500-Cl-B	08-27-1996 0800 SW
Conductivity	5380	1	umhos/cm	SM2510-B	08-28-1996 1430 SW
Hardness, Total	1955	----	mg/l as $CaCO_3$	SM2340-B	09-06-1996 1430 JJ
Iron, Total	<0.1	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Iron, Dissolved	<0.1	0.1	mg/l	EPA 236.1	08-29-1996 1000 MK
Magnesium, Total	205	10	mg/l	EPA 242.1	08-29-1996 0900 MK
Manganese, Total	0.2	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Manganese, Dissolved	0.2	0.1	mg/l	EPA 243.1	08-29-1996 1030 MK
Oil & Grease	<2	2	mg/l	SM5520-B	08-21-1996 0630 JC
pH	8.05	----	pH units	EPA 150.1	08-20-1996 1715 JJ
Potassium, Total	14	1	mg/l	EPA 258.1	08-29-1996 1100 MK
Sodium, Total	919	10	mg/l	EPA 273.1	08-29-1996 1130 MK
Solids, Settleable	<0.5	0.5	ml/l	EPA 160.5	08-20-1996 1430 SW
Solids, Total Dissolved	5332	10	mg/l	EPA 160.1	08-22-1996 0700 JC
Solids, Total Suspended	5	5	mg/l	EPA 160.2	08-22-1996 0700 JC
Sulfate	2877	200	mg/l	EPA 375.4	09-05-1996 1300 SW
Cation/Anion Balance	6.0	----	%		09-06-1996 1430 JJ

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.
Larry Stout
Huntington Laboratory

OVER 40 BRANCH LABORATORIES STRATEGICALLY LOCATED IN PRINCIPAL COAL MINING AREAS, TIDEWATER AND GREAT LAKES PORTS, AND RIVER LOADING FACILITIES
Original Watermarked For Your Protection
TERMS AND CONDITIONS ON REVERSE

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-4
LOCATION:	DIVER DITCH DOWNSTREAM
TYPE:	DITCH
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	**03/12/98**
Flow [gpm]	1.25
PH	8.20
Sp. Cond. [ohms]	3910.00
Temp. [F]	8.20
Diss. O [ppm]	8.10
Lab. Measurements [mg/l]	
Acidity	7.90
Al as HC03	412.00
Al as C03	<1
Al Total CaC03	338.00
Anions meg/l	68.30
Calcium	520.00
Cations meg/l	69.00
Chloride	92.00
Hard. Total	2180.00
Iron	0.36
Magnesium	215.00
Manganese, Diss.	0.28
Potassium, Total	14.00
Sodium, Total	575.00
Solids sett.	<0.1
Sol. Tot. Diss.	4710.00
Sol. Tot. Sus.	32.00
Sulfate	2830.00
Cat/An Balance	0.51
Oil & Grease	ND

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-4
Location: Diver. Ditch Downstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/04/97
Flow [gpm]	2.00	0.75	1.50	3.00
PH	8.17	8.66	8.20	7.81
Sp. Cond. [ohms]	5,540.00	4,700.00	3,510.00	3,960.00
Temp. [F]	7.00	15.00	19.00	4.00
Diss. O [ppm]	5.50	3.20	3.20	8.00
Lab. Meas. [mg/l]				
Al as HCO3	383.00	423.00	444.00	400.00
Al as C03	<1	<1	<1	<1
Al Total	314.00	347.00	364.00	328.00
Anions	71.00	69.10	54.40	59.80
Calcium	396.00	426.00	437.00	451.00
Cations	64.40	67.90	65.50	64.80
Chloride	71.80	73.30	110.00	60.00
Hard. Total	1,729.00	1,835.00	1,870.00	1,880.00
Iron	0.09	<0.02	<0.02	0.03
Magnesium	180.00	187.00	189.00	183.00
Manganese	81.00	0.08	0.30	0.154
Potassium	14.60	14.90	15.90	12.60
Sodium	677.00	709.00	638.00	618.00
Sol. Set.	<0.1	<0.1	<0.1	<0.1
Sol. Tot. Diss.	4,940.00	4,820.00	4,300.00	4,190.00
Sol. Tot. Sus.	4,666.00	<2	12.00	20.00
Sulfate	3,012.00	2,885.00	2,100.00	2,480.00
Cat/An Balance	4.90	0.82	9.32	3.96
Oil & Grease	<1	<1	<0.5	<1

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-4
Location: Diver. Ditch Downstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow [gpm]	DRY	DRY	0.25	0.25	
PH			7.37	8.10	
Sp. Cond. [ohms]			5,500.00	2,760	
Temp. [F]			13.00	6.00	
Diss. O [ppm]			6.00	8.75	
Lab. Meas. [mg/l]					
Al as HCO3			489.00	440	
Al as C03			19.00	<1	
Al Total			433.00	360.00	
Anions			70.50	67.00	
Calcium			445.00	380.00	
Cations			79.40	64.90	
Chloride			68.00	53.40	
Hard. Total			1,955.00	1,680.00	
Iron			<0.1	<0.025	
Magnesium			205.00	180.00	
Manganese			0.20	0.13	
Potassium			14.00	12.10	
Sodium			919.00	710.00	
Sol. Set.			<0.5	<0.1	
Sol. Tot. Diss.			5,332.00	4,560.00	
Sol. Tot. Sus.			5.00	7.00	
Sulfate			2,877.00	2,790.00	
Cat/An Balance			6.00	1.60	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-4
Location: Diver. Ditch Downstream
Type: Ditch
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

ALL OF 1993 DRY too. (FROM MULTI-SITE Pg)

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-4
Location: Diver. Ditch Downstream
Type: Ditch
Frequency: Quarterly

FROM MULTI-SITE PG.

Field Measurements	Date Sampled 03/04/94	04/13/94	00/00/94	~~00/00/~~11/29/94	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					

Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

91SW-4

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-4

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-4

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-4

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meg/l				
ANION BALANCE	meg/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 4

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

SH 5/8

SAMPLE LOCATION: SW - 4 * Parameters not available from lab

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				10						1		
pH	standard				2.22						7.54		
Temp	o C				12						18		
Conductivity	umhos/cm				5000+.						5000+.		
Diss. Oxygen	ppm				>15						4.4		
Aluminum	mg/l				<.1						<0.10		
Arsenic	mg/l				<.01						<0.004		
Barium	mg/l				<.01						<0.10		
Bicarbonate	mg/l				298						494		
Boron	mg/l				0.53						0.91		
Cadmium	mg/l				<.01						<0.005		
Calcium	mg/l				236						348		
Carbonate	mg/l				0						0		
Chloride	mg/l				102						142		
Chromium	mg/l				<.01						<0.05		
Copper	mg/l				<.01						<0.03		
Flouride	mg/l				1.22						0.29		
Hardness	mg/l				1780						2375		
Iron Total	mg/l				0.15						0.61		
Lead	mg/l				<.01						<0.05		
Magnesium	mg/l				225						366		
Manganese	mg/l				<.01						0.54		
Mercury	mg/l				<.0002						<0.001		
Molybdenum	mg/l				<.01						<0.10		
Nickel	mg/l				<.01						<0.05		
Ammonia	mg/l				0.18						<0.05		
Nitrate	mg/l				0.27						<0.05		
Nitrite	mg/l				0.643						<0.05		
Oil & Grease	mg/l				<.5						<2.0		
Phosphate	mg/l				<.01						<0.05		
Potassium	mg/l				16.4						21.1		
Selenium	mg/l				<.002						<0.004		
Sodium	mg/l				1035						1218		
Sulfate	mg/l				3450						4400		
Sulfide	mg/l				<.1						<0.4		
TDS	mg/l				5910						6170		
TSS	mg/l				60						*		
Sett. Solids	mg/l				<.1						*		
Zinc	mg/l				<.01						<0.01		
C - A Balance	meq/l				-2.51						*		

CH5/86

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012
1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-4

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Flow (gpm)			187.		112.							40.
pH			7.80		8.3							8.08
Temp. (°C)												4.
Conductiv.			6900.		1680.							2600.
Aluminum			0.42		0.72							
Arsenic			0.002		0.001							
Barium			<0.01		0.04							
Bicarbon.			539.		282.							581.
Boron			0.78		0.22							
Cadmium			<0.001		<0.005							
Calcium			400.		133.							134.
Carbonate			<0.01		0.							0.
Chloride			90.2		29.							79.6
Chromium			0.030		<0.01							
Copper			0.03		<0.01							
Fluoride			0.29		0.31							
Hardness			2115.		681.							2170.
Iron			0.54		1.75							0.03
Lead			<0.001		<0.02							
Magnesium			267.6		85.							292.
Manganese			0.62		0.10							0.17
Mercury			<0.0002		<0.0002							
Molybdenum			0.05		<0.05							
Nickel			<0.01		<0.02							
Ammonia			0.55		0.03							
Nitrate			0.45		0.03							
Nitrite			0.02									
Oil & Grease												<0.5
Phosphate			0.03		<0.02							
Potassium			9.78		5.							13.5
Selenium			<0.001		<0.001							
Sodium			610.		182.							699.
Sulfate			2885.		731.							2600.
Sulfide			<0.10		<0.2							
TDS			4550.		1362.							5320.
TSS			63.		86.							<1.
Sett. Solids												<0.1
Zinc			<0.001		0.01							
C-A Balance					-0.09							

CH510

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

SW-4*** Sampling Date	07-31-85	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow gpm	2000.000	200.000	100.000	15	2000	331	533
Aluminum, Al (Tot) mg/l	<.001	0.520	1.080	0.000	1.830	0.597	0.604
Ammonia, NH3-N mg/l	<.01	0.100	1.300	0.000	1.300	0.238	0.349
Arsenic, As (Tot) mg/l	<.001	<.001	<.001	0.000	0.002	.000	0.001
Barium, Ba (Tot) mg/l	0.050	0.040	0.020	0.000	0.080	0.036	0.020
Bicarbonate, HCO3 mg/l	309.900	460.000	51.000	51.000	634.400	438.897	154.714
Boron as B (Tot) mg/l	0.250	0.530	0.679	0.215	0.794	0.534	0.188
Cadmium, Cd (Tot) mg/l	<.001	<.001	<.001	0.000	0.010	0.001	0.003
Calcium, Ca mg/l	148.000	338.000	422.000	0.000	431.100	295.400	142.814
Carbonate as CO3 mg/l	<.01	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	39.700	65.200	104.000	28.900	250.000	110.975	67.976
Chromium, Cr (Tot) mg/l	0.006	0.004	0.006	0.000	0.008	0.003	0.003
Conductivity umhos/cm	2250.000	5500.000	6900.000	1500.000	8400.000	5752.500	2346.551
Copper (Tot) mg/l	<.01	<.01	0.020	0.000	0.050	0.021	0.015
Fluoride, F mg/l	0.250	0.320	0.310	0.250	0.380	0.309	0.036
Hardness, CaCO3 mg/l	740.000	1715.000	2165.000	205.000	2400.000	1581.583	760.368
Iron, Fe (Tot) mg/l	1.330	0.790	1.500	0.020	2.980	0.840	0.767
Lead, Pb (Tot) mg/l	0.002	0.012	0.002	0.000	0.120	0.015	0.033
Magnesium, Mg mg/l	88.000	213.600	266.400	60.000	300.000	216.733	84.637
Manganese, Mn (Tot) mgl	0.060	0.430	0.580	0.010	0.580	0.263	0.160
Mercury, Hg mg/l	<.0002	<.0002	<.0002	0.000	0.000	0.000	0.000
Molybdenum as Mo (Tot) mg/l	<.01	0.020	0.048	0.000	0.048	0.010	0.014
Nickel, Ni (Tot) mg/l	0.070	<.01	0.030	0.000	0.070	0.019	0.027
Nitrate, NO3-N mg/l	0.370	0.730	1.250	0.070	1.670	0.786	0.502
Nitrate as NO2-N mg/l	<.01	<.01	1.020	0.000	1.020	0.143	0.319
Phosphate PO4-P Ortho mg/l	0.020	<.01	<.01	0.000	0.450	0.063	0.120
Phosphate PO4-P Tot mg/l	0.250	0.060	0.040	0.020	0.700	0.192	0.184
Potassium, K mg/l	7.300	10.670	11.010	5.410	16.300	11.678	3.301
Selenium Se (Tot) mg/l	<.001	0.002	0.003	0.000	0.003	.000	0.001
Sodium, Na mg/l	212.000	472.000	598.000	120.000	848.000	556.150	251.100
Sulfate, SO4 mg/l	840.000	2266.000	3100.000	470.000	3470.000	2315.917	1007.751
Sulfide as S mg/l	2.400	<.10	<.01	0.000	2.400	0.767	0.871
Suspended Solids mg/l	66.000	42.000	82.000	14.000	125.000	47.417	29.338
Total Dis. Solids mg/l	1482.000	3630.000	4980.000	980.000	5460.000	3832.167	1577.951
Zinc, Zn (Tot) mg/l	0.033	0.028	0.016	0.000	0.110	0.040	0.034
pH Units	7.900	7.700	7.750	7.200	8.100	7.725	0.217

3H5/8

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

[illegible]M-4***									
Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-25-85	3-18-85	5-28-85
Flow gpm	15	25	50	500	500	40.000	40.000	100.000	400.000
Aluminum, Al (Tot) mg/l	0.055	0.257	0.250	1.790	1.830	0.136	0.410	0.450	0.390
Ammonia, NH3-N mg/l	0.300	<.10	0.150	0.370	0.380	0.200	<0.01	0.050	<.01
Arsenic, As (Tot) mg/l	0.002	<.001	<.001	<.001	<.010	<.001	<0.001	<.001	<.001
Barium, Ba (Tot) mg/l	0.040	0.020	0.040	0.080	0.050	0.020	0.020	<.01	0.050
Bicarbonate, HCO3 mg/l	534.360	634.400	433.100	338.500	457.500	634.400	546.600	511.000	356.000
Boron as B (Tot) mg/l	0.610	0.650	0.400	0.215	0.522	0.697	0.740	0.794	0.320
Cadmium, Cd (Tot) mg/l	<.001	<.010	<.0010	<.001	0.010	0.001	<0.001	<.001	<.001
Calcium, Ca mg/l	424.000	352.000	460.00	118.000	264.000	428.000	430.900	431.100	188.800
Carbonate as CO3 mg/l	<.01	<.01	<.01	<.01	<.01	<.01	<0.01	<.01	<.01
Chloride, Cl mg/l	102	150	174	29	75	209	250	97	36.900
Chromium, Cr (Tot) mg/l	<.001	0.002	0.001	<.001	.010	<.001	<0.001	0.005	0.008
Conductivity umhos/cm	7700	7690	8400	1500	4300	7400	7300	7450	2640.000
Copper (Tot) mg/l	0.040	0.050	0.020	0.026	0.030	0.010	0.020	0.030	<.01
Fluoride, F mg/l	0.340	0.380	0.260	0.300	0.300	0.360	0.300	0.290	0.300
Hardness, CaCO3 mg/l	2260	205	2400	545	1285	2230	2246	2235	953.000
Iron, Fe (Tot) mg/l	0.720	0.520	0.240	2.980	0.390	0.020	0.650	0.200	0.740
Lead, Pb (Tot) mg/l	0.003	<.001	<.001	0.037	0.120	0.001	<0.010	<.001	<.001
Magnesium, Mg mg/l	288.000	280.800	300.000	60.000	150.000	278.400	280.600	278.600	116.400
Manganese, Mn (Tot) mgl	0.350	0.300	0.010	0.090	0.310	0.370	0.300	0.240	0.120
Mercury, Hg mg/l	<.0002	<.0002	<.0002	<.0002	<.0002	<.0002	<0.0002	<.0002	<.0002
Molybdenum as Mo (Tot) mg/l	0.022	<.001	<.001	<.005	0.006	0.008	<0.05	0.011	<.001
[illegible]kel, Ni (Tot) mg/l	0.050	<.01	<.01	<.01	0.070	0.010	<0.01	<.01	<.01
[illegible]ate, NO3-N mg/l	0.820	1.670	1.100	0.150	0.070	0.660	0.780	1.540	0.290
Nitrite as NO2-N mg/l	0.020	<.01	0.650	<.01	<.01	0.030	<0.01	<.01	<.01
Phosphate PO4-P Ortho mg/l	0.450	0.020	0.020	0.070	<.01	0.030	0.030	0.010	0.100
Phosphate PO4-P Tot mg/l	0.220	0.020	0.040	0.700	0.290	0.260	0.060	0.080	0.280
Potassium, K mg/l	16.300	15.600	16.000	9.350	9.700	13.600	12.000	13.190	5.410
Selenium Se (Tot) mg/l	<.001	<.001	<.001	<.001	<.001	<.001	<0.001	<.001	<.001
Sodium, Na mg/l	796.000	848.000	840.000	120.000	432.000	743.000	690.000	716.000	206.800
Sulfate, SO4 mg/l	3250	3025	3470	470	1660	2850	2800	3070	990.000
Sulfide as S mg/l	0.300	0.100	1.500	1.600	1.500	1.800	<0.01	<.01	<.01
Suspended Solids mg/l	24.0	28.0	35.0	125.0	14.0	49.0	29.0	39.0	36.000
Total Dis. Solids mg/l	5150	5250	5460	980	2850	4830	4796	4868	1710.000
Zinc, Zn (Tot) mg/l	0.050	0.100	0.020	0.071	0.023	<.001	0.012	0.011	0.110
pH Units	7.60	7.70	7.20	8.00	8.10	7.65	7.80	7.70	7.600

03-Jan-86

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-5
LOCATION:	UPPER REFUSE POND
TYPE:	POND
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	**03/12/98**
Flow [gpm]	DRY
PH	
Sp. Cond. [ohms]	
Temp. [F]	
Diss. O [ppm]	
Lab. Measurements [mg/l]	
Al as HC03	
Al as C03	
Al Total CaC03	
Anions meg/l	
Calcium	
Cations meg/l	
Chloride	
Hard. Total	
Iron	
Magnesium	
Manganese, Diss.	
Potassium, Total	
Sodium, Total	
Solids sett.	
Sol. Tot. Diss.	
Sol. Tot. Sus.	
Sulfate	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-5
Location: Upper Refuse Pond
Type: Pond
Frequency: Quarterly

2-10-98

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow [gpm]	DRY	DRY	DRY	DRY
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				
Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol. Set.				
Sol. Tot. Diss.				
Sol. Tot. Sus.				
Sulfate				

QC MB 12-4

CM 3/13

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 Station # SW-5

Company Earthco

Time 1035 HRS

Flow/Depth

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No ✓

Pump Reading

Comments

Field Monitor Mike Hubbard

When Sample or Measurements Not Taken:

Reason: Dry

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-5
Location: Upper Refuse Pond
Type: Pond
Frequency: Quarterly

3/20/97 RRM

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-5
Location: Upper Refuse Pond
Type: Pond
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

SW-5 DRY ALL FOUR QUARTERS 1993. (FROM MULTI-SITES/PG SECTION)

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-5
Location: Upper Refuse Pond
Type: Pond
Frequency: Quarterly

FROM MULTI SITE pg.

Field Measurements	Date Sampled 03/04/94	04/13/94	00/00/94	~~00/00~~/94 11 29	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					

Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

91SW-5

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-5

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-5

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-5

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meg/l				
ANION BALANCE	meg/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 5

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

SH 5/8

SAMPLE LOCATION: SW - 5

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				Dry						Dry		
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

GH 5/8

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012
1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-5

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Level (ft)			Pond was dry all of 1986.									
pH												
Temp. (°C)												
Conductiv.												
Aluminum												
Arsenic												
Barium												
Bicarbon.												
Boron												
Cadmium												
Calcium												
Carbonate												
Chloride												
Chromium												
Copper												
Fluoride												
Hardness												
Iron												
Lead												
Magnesium												
Manganese												
Mercury												
Molybdenum												
Nickel												
Ammonia												
Nitrate												
Nitrite												
Oil & Grease												
Phosphate												
Potassium												
Selenium												
Sodium												
Sulfate												
Sulfide												
TDS												
TSS												
Sett. Solids												
Zinc												
C-A Balance												

CH 560

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

ER REFUSE POND
~~***SW-5***~~

Sampling Date	07-31-85	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow Not Applic.				0	0	0	
Aluminum, Al (Tot) mg/l	<.001	31.480	3.170	0.000	122.860	33.930	39.482
Ammonia, NH3-N mg/l	0.520	0.400	1.050	0.000	1.050	0.292	0.297
Arsenic, As (Tot) mg/l	0.038	0.045	<.001	0.000	0.172	0.034	0.050
Barium, Ba (Tot) mg/l	4.050	3.810	0.650	0.080	16.680	5.292	5.085
Bicarbonate, HCO3 mg/l	295.200	284.000	371.000	284.000	427.000	349.772	46.642
Boron as B (Tot) mg/l	1.410	2.340	0.684	0.400	7.990	2.265	2.084
Cadmium, Cd (Tot) mg/l	0.001	0.027	<.001	0.000	0.027	0.005	0.008
Calcium, Ca mg/l	140.000	144.000	186.000	80.000	454.200	163.775	91.404
Carbonate as CO3 mg/l	<.01	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	94.500	82.800	98.600	0.000	120.000	83.958	31.385
Chromium, Cr (Tot) mg/l	0.027	0.040	0.011	0.000	0.080	0.039	0.029
Conductivity umhos/cm	4200.000	4350.000	4600.000	2800.000	7900.000	4283.333	1365.396
Copper (Tot) mg/l	0.170	0.170	0.080	0.000	0.600	0.172	0.152
Fluoride, F mg/l	0.690	0.790	0.610	0.580	0.960	0.730	0.109
Hardness, CaCO3 mg/l	740.000	890.000	1090.000	450.000	2930.000	1030.917	661.183
Iron, Fe (Tot) mg/l	50.200	37.300	4.590	1.490	110.580	50.399	36.921
Lead, Pb (Tot) mg/l	0.069	0.100	0.011	0.000	0.430	0.136	0.159
Magnesium, Mg mg/l	93.600	127.200	150.000	12.000	630.000	143.508	152.264
Manganese, Mn (Tot) mgl	0.570	0.600	0.190	0.000	1.700	0.642	0.515
Mercury, Hg mg/l	<.0002	<.0002	<.0002	0.000	0.000	0.000	0.000
ybdenum as Mo (Tot) mg/l	<.01	0.040	0.040	0.000	0.040	0.011	0.014
kel, Ni (Tot) mg/l	<.05	0.060	0.020	0.000	1.100	0.141	0.294
Nitrate, NO3-N mg/l	0.480	0.850	0.670	0.330	2.400	0.973	0.554
Nitrate as NO2-N mg/l	0.130	0.170	<.01	0.000	0.700	0.258	0.192
Phosphate PO4-P Ortho mg/l	<.01	<.01	<.01	0.000	0.460	0.081	0.139
Phosphate PP4-P Tot mg/l	0.750	1.400	0.140	0.100	5.200	1.719	1.685
Potassium, K mg/l	11.500	14.600	7.650	6.800	34.800	11.823	7.233
Selenium Se (Tot) mg/l	<.001	<.001	<.001	0.000	0.000	0.000	0.000
Sodium, Na mg/l	612.000	566.000	558.000	397.000	612.000	528.058	65.587
Sulfate, SO4 mg/l	1630.000	1738.000	1830.000	880.000	3550.000	1677.333	688.124
Sulfide as S mg/l	2.400	<.10	<.01	0.000	2.400	0.280	0.675
Suspended Solids mg/l	5179.000	11120.000	1096.000	244.000	24164.000	10292.667	7570.780
Total Dis. Solids mg/l	2742.000	2840.000	3114.000	1820.000	5145.000	2807.750	889.511
Zinc, An (Tot) mg/l	0.442	0.452	0.090	0.010	3.356	0.634	0.869
pH Units	7.800	7.800	7.950	7.600	8.180	7.807	0.141

CH 518

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

UPPER REFUSE POND ***SW-5*** Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-25-85	3-18-85	5-28-85
Flow Not Applic.	0	0	0	0	0				0.000
Aluminum, Al (Tot) mg/l	0.089	1.245	1.300	24.500	51.000	63.110	122.860	95.200	13.200
Ammonia, NH3-N mg/l	0.100	<.10	<.10	0.370	0.360	0.100	<0.01	0.500	0.100
Arsenic, As (Tot) mg/l	0.005	<.001	<.001	<.001	0.017	0.095	0.033	0.172	0.003
Barium, Ba (Tot) mg/l	0.080	0.280	0.300	9.940	10.200	9.870	16.680	5.710	1.930
Bicarbonate, HCO3 mg/l	339.160	427.000	427.000	317.200	366.000	329.400	386.300	361.000	294.000
Boron as B (Tot) mg/l	0.450	0.400	0.400	2.180	3.930	3.100	7.990	3.230	1.065
Cadmium, Cd (Tot) mg/l	<.001	<.010	<.0010	0.004	0.016	0.006	<0.001	0.003	<.001
Calcium, Ca mg/l	120.000	122.000	160.000	80.000	114.000	134.000	144.000	454.200	167.100
Carbonate as CO3 mg/l	<.01	<.01	<.01	<.01	<.01	<.01	<0.01	<.01	<.01
Chloride, Cl mg/l	88.00	45	120	75	100	86	111	88.000	107.000
Chromium, Cr (Tot) mg/l	<.001	0.004	0.002	0.046	0.080	0.060	0.075	0.078	0.041
Conductivity umhos/cm	3400	7900	2800	2800	3500	3500	3950	5900.000	4500.000
Copper (Tot) mg/l	0.030	0.050	<.001	0.208	0.190	0.270	0.600	0.220	0.080
Fluoride, F mg/l	0.750	0.820	0.580	0.670	0.840	0.790	0.620	0.640	0.960
Hardness, CaCO3 mg/l	710	2930	450	545	705	780	828	1820.000	883.000
Iron, Fe (Tot) mg/l	1.490	3.900	77.600	55.500	89.000	93.000	110.580	69.600	12.030
Lead, Pb (Tot) mg/l	0.001	<.001	<.001	0.430	0.380	0.089	0.388	0.154	0.014
Magnesium, Mg mg/l	98.400	630.000	12.000	82.800	36.000	102.000	112.400	165.600	112.100
Manganese, Mn (Tot) mgl	0.090	0.100	<.01	1.070	1.010	1.170	1.700	0.950	0.250
Mercury, Hg mg/l	<.0002	<.0002	<.0002	<.0002	<.0002	<.0002	<0.0002	<.0002	<.0002
Molybdenum as Mo (Tot) mg/l	0.013	<.001	<.001	0.013	0.015	0.002	<0.05	0.011	<.001
Nickel, Ni (Tot) mg/l	0.010	0.030	<.01	0.030	0.190	0.100	1.100	0.080	0.070
Nitrate, NO3-N mg/l	1.170	2.400	0.330	0.580	0.570	1.410	1.480	1.050	0.690
Nitrite as NO2-N mg/l	0.140	0.150	0.700	0.130	0.180	0.480	0.420	0.180	0.420
Phosphate PO4-P Ortho mg/l	0.460	0.120	<.02	0.020	<.01	0.020	0.060	0.010	0.280
Phosphate PP4-P Tot mg/l	0.350	0.100	0.140	0.900	2.400	5.200	4.800	2.600	1.850
Potassium, K mg/l	8.700	6.800	7.300	9.600	11.700	9.600	34.800	9.040	10.580
Selenium Se (Tot) mg/l	<.001	<.001	<.001	<.001	<.001	<.001	<0.001	<.001	<.001
Sodium, Na mg/l	481.000	572.000	430.000	397.000	575.000	479.000	525.000	532.000	609.700
Sulfate, SO4 mg/l	1290	3550	880	1020	1230	1350	1450	2430.000	1730.000
Sulfide as S mg/l	0.100	0.060	<.01	<.01	<.01	<.01	<0.01	0.800	<.01
Suspended Solids mg/l	244	399	10770	9035	12372	18940	24164	20484	9709.000
Total Dis. Solids mg/l	2260	5145	1820	1820	2250	2290	2652	3840.000	2920.000
Zinc, An (Tot) mg/l	0.020	0.080	0.010	0.708	0.730	0.825	3.356	0.658	0.234
pH Units	7.70	7.80	7.70	7.70	8.18	7.850	7.800	7.800	7.600

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-6
LOCATION:	LOWER REFUSE POND
TYPE:	POND
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	03/12/98
Flow [gpm]	DRY
PH	
Sp. Cond. [ohms]	
Temp. [F]	
Diss. O [ppm]	
Lab. Measurements [mg/l]	
Al as HC03	
Al as C03	
Al Total CaC03	
Anions meg/l	
Calcium	
Cations meg/l	
Chloride	
Hard. Total	
Iron	
Magnesium	
Manganese, Diss.	
Potassium, Total	
Sodium, Total	
Solids sett.	
Sol. Tot. Diss.	
Sol. Tot. Sus.	
Sulfate	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-6
Location: Lower Refuse Pond
Type: Pond
Frequency: Quarterly

MB 2-16-98

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow [gpm]	DRY	DRY	DRY	DRY
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				
Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol. Set.				
Sol. Tot. Diss.				
Sol. Tot. Sus				
Sulfate				

RCM
V-4

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 Station # SW-6

Company Earthco

Time 1110 hrs

CM 3113

Flow/Depth

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No___

Pump Reading

Comments

Field Monitor Mike Hubbard

When Sample or Measurements Not Taken:

Reason: Dry

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-6
Location: Lower Refuse Pond
Type: Pond
Frequency: Quarterly

3/20/97 RRT

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus					
Sulfate					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-6
Location: Lower Refuse Pond
Type: Pond
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus					
Sulfate					

SW-6 DRY
ALL OF 1993
(SEE MULTI-SITE PAGES)

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-6
Location: Lower Refuse Pond FROM MULTI-SITE PG
Type: Pond
Frequency: Quarterly

Field Measurements	03/04/94	04/13/94	00/00/94	~~00~~/~~00~~/94 (11 29)	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus					
Sulfate					

91SW-6

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-6

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-6

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-6

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meg/l				
ANION BALANCE	meg/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 6

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

SH 5/8

SAMPLE LOCATION: SW - 6

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				Dry						Dry		
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

SH 5/8

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012

1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-6

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Level (ft)			5373.9		5370.2							
pH			8.20		8.3							
Temp. (°C)												P
Conductiv.			4490.		4450.							
Aluminum			0.23		0.35							O
Arsenic			<0.001		<0.001							
Barium			0.04		0.04							N
Bicarbon.			272.		214.							
Boron			0.95		0.95							D
Cadmium			<0.001		<0.005							
Calcium			150.		155.							
Carbonate			<0.01		0.							
Chloride			95.6		130.							D
Chromium			0.020		<0.01							
Copper			0.04		<0.01							R
Fluoride			0.63		0.87							
Hardness			990.		1142.							Y
Iron			0.36		0.80							
Lead			<0.001		<0.02							
Magnesium			147.6		184.							
Manganese			0.04		0.04							
Mercury			<0.0002		<0.0002							
Molybdenum			0.06		<0.05							
Nickel			<0.01		<0.02							
Ammonia			0.43		0.03							
Nitrate			0.10		0.02							
Nitrite			0.02									
Oil & Grease												
Phosphate			0.02		<0.02							
Potassium			8.86		12.							
Selenium			0.003		0.003							
Sodium			565.		798.							
Sulfate			1820.		2529.							
Sulfide			<0.10		<0.2							
TDS			2950.		3904.							
TSS			35.0		176.							
Sett. Solids												
Zinc			0.017		0.01							
C-A Balance					-2.32							

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

ER REFUSE POND
~~***SW-6***~~

Sampling Date	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow Not Applic.			0	0	0	
Aluminum, Al (Tot) mg/l	0.060	0.230	0.000	0.820	0.195	0.203
Ammonia, NH3-N mg/l	0.100	0.100	0.000	8.500	0.979	2.314
Arsenic, As (Tot) mg/l	<.001	0.002	0.000	0.003	.000	0.001
Barium, Ba (Tot) mg/l	0.040	0.030	0.010	0.120	0.049	0.025
Bicarbonate, HCO3 mg/l	150.000	283.000	150.000	402.600	307.487	64.495
Boron as B (Tot) mg/l	0.840	0.843	0.440	0.843	0.641	0.145
Cadmium, Cd (Tot) mg/l	0.002	<.001	0.000	0.008	0.001	0.002
Calcium, Ca mg/l	134.000	176.000	32.000	176.000	122.183	35.077
Carbonate as CO3 mg/l	42.000	<.01	0.000	42.000	3.500	11.608
Chloride, Cl mg/l	98.000	122.000	11.000	159.000	92.567	35.699
Chromium, Cr (Tot) mg/l	0.004	0.008	0.000	0.012	0.004	0.004
Conductivity umhos/cm	4600.000	5400.000	2300.000	5750.000	4015.000	898.179
Copper (Tot) mg/l	<.01	0.020	0.000	0.040	0.015	0.014
Fluoride, F mg/l	0.840	0.760	0.480	0.840	0.723	0.088
Hardness, CaCO3 mg/l	950.000	1060.000	490.000	1060.000	787.500	151.137
Iron, Fe (Tot) mg/l	0.100	0.190	0.000	0.290	0.128	0.088
Lead, Pb (Tot) mg/l	0.004	<.001	0.000	0.090	0.019	0.031
Magnesium, Mg mg/l	146.700	148.800	84.000	148.800	115.785	22.935
Manganese, Mn (Tot) mg/l	<.01	0.030	0.000	0.060	0.024	0.020
Mercury, Hg mg/l	.000	<.0002	0.000	.000	.000	.000
ybdenum as Mo (Tot) mg/l	0.020	0.043	0.000	0.043	0.009	0.012
kel, Ni (Tot) mg/l	<.01	<.01	0.000	0.110	0.018	0.034
Nitrate, NO3-N mg/l	0.020	0.190	0.020	1.280	0.458	0.386
Nitrite as NO2-N mg/l	0.020	0.030	0.000	0.700	0.112	0.197
Phosphate PO4-P Ortho mg/l	<.01	<.01	0.000	0.450	0.059	0.119
Phosphate PO4-P Tot mg/l	0.100	<.01	0.000	0.480	0.106	0.140
Potassium, K mg/l	9.750	10.220	4.800	11.100	9.061	1.737
Selenium Se (Tot) mg/l	<.001	0.002	0.000	0.002	.000	0.001
Sodium, Na mg/l	610.000	735.000	340.000	884.000	563.067	135.248
Sulfate, SO4 mg/l	1880.000	2210.000	810.000	2450.000	1557.500	430.758
Sulfide as S mg/l	<.10	<.01	0.000	1.500	0.438	0.600
Suspended Solids mg/l	10.000	7.000	7.000	30.000	17.417	7.751
Total Dis. Solids mg/l	2998.000	3504.000	1510.000	3750.000	2554.500	634.804
Zinc, An (Tot) mg/l	0.002	0.011	0.000	0.123	0.025	0.035
pH Units	8.500	8.250	7.400	8.500	8.096	0.264

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

CH 518

ER REFUSE POND
SW-6

Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-29-85	3-18-85	5-28-85	07-31-85
Flow Not Applic.	0	0	0	0	0				0.000	
Aluminum, Al (Tot) mg/l	0.045	0.206	0.210	0.120	0.820	0.184	0.100	0.115	0.250	(.001
Ammonia, NH3-N mg/l	0.150	0.200	0.200	0.160	0.140	0.100	8.500	1.800	(.01	0.300
Arsenic, As (Tot) mg/l	(.001	(.010	(.001	(.001	(.010	0.003	(0.001	(.001	(.001	(.001
Barium, Ba (Tot) mg/l	0.120	0.050	0.060	0.060	0.050	0.030	0.040	0.010	0.050	0.050
Bicarbonate, HCO3 mg/l	344.040	329.400	402.600	359.900	323.300	292.000	385.300	276.000	293.000	251.300
Boron as B (Tot) mg/l	0.440	0.450	0.500	0.699	0.710	0.508	0.660	0.506	0.764	0.770
Cadmium, Cd (Tot) mg/l	(.001	(.010	(.0010	(.001	0.008	(.001	(0.001	(.001	(.001	(.001
Calcium, Ca mg/l	120.000	32.000	140.000	84.000	104.000	128.000	134.900	118.800	150.500	144.000
Carbonate as CO3 mg/l	(.01	(.01	(.01	(.01	(.01	(.01	(0.01	(.01	(.01	(.01
Chloride, Cl mg/l	80	50	159	92	100	115	103	72.000	109.000	11.000
Chromium, Cr (Tot) mg/l	0.005	(.001	(.001	(.001	0.010	(.001	(0.001	(.001	0.012	0.007
Conductivity umhos/cm	3300	2300	3780	3800	3950	3700	4100	3200.000	4300.000	5750.000
Copper (Tot) mg/l	0.040	0.030	(.001	0.028	0.030	(.001	(0.001	0.020	(.01	0.010
Fluoride, F mg/l	0.760	0.740	0.790	0.760	0.710	0.670	0.690	0.480	0.790	0.680
Hardness, CaCO3 mg/l	670	490	700	785	700	750	779	696.000	970.000	900.000
Iron, Fe (Tot) mg/l	0.060	0.160	0.290	0.180	0.120	(.02	0.020	0.090	0.060	0.270
Lead, Pb (Tot) mg/l	(.001	0.025	0.020	0.080	0.090	(.001	(0.01	(.001	0.003	(.001
Magnesium, Mg mg/l	88.900	98.400	84.000	138.000	105.500	103.200	106.200	95.920	143.800	130.000
Manganese, Mn (Tot) mg/l	0.060	0.020	(.01	0.010	0.030	0.030	0.060	0.030	0.020	(.03
Mercury, Hg mg/l	(.0002	(.0002	(.0002	(.0002	(.0002	0.0004	(0.0002	(.0002	(.0002	(.0002
ybdenum as Mo (Tot) mg/l	0.010	(.002	(.001	0.009	0.010	0.005	(0.05	0.010	(.001	(.01
kel, Ni (Tot) mg/l	0.060	(.01	(.01	(.01	0.050	(.01	(0.01	(.01	0.110	(.05
Nitrate, NO3-N mg/l	1.280	0.860	1.000	0.250	0.040	0.060	0.450	0.510	0.350	0.490
Nitrite as NO2-N mg/l	0.320	0.020	0.700	(.01	(.01	0.040	0.110	0.080	0.020	(.01
Phosphate PO4-P Ortho mg/l	0.450	0.030	0.040	(.02	(.01	0.060	0.030	0.030	0.040	0.030
Phosphate PO4-P Tot mg/l	0.270	0.030	0.030	0.060	0.480	0.220	(0.01	0.060	0.020	(.01
Potassium, K mg/l	8.300	4.800	9.900	9.450	10.600	10.400	11.100	6.550	8.660	9.000
Selenium Se (Tot) mg/l	(.001	(.001	(.001	(.001	(.001	(.001	(0.001	(.001	(.001	(.001
Sodium, Na mg/l	467.000	340.000	563.000	523.000	587.000	494.000	567.000	426.000	560.800	884.000
Sulfate, SO4 mg/l	1230	810	1300	1450	1500	1400	1530	1230.000	1700.000	2450.000
Sulfide as S mg/l	0.150	(.01	1.100	1.500	1.300	1.200	(0.01	(.01	(.01	(.10
Suspended Solids mg/l	8.0	10.0	21.0	24.0	13.0	29.0	21.0	30.000	14.000	22.000
Total Dis. Solids mg/l	2160	1510	2460	2460	1720	2420	2762	2090.000	2820.000	3750.000
Zinc, Zn (Tot) mg/l	0.010	0.060	(.001	0.047	0.020	(.001	(0.001	0.008	0.123	0.018
pH Units	8.00	8.10	7.40	8.00	8.40	8.05	8.05	8.100	8.000	8.300

03-Jan-86

Electronic Water Data Report By Individual Sample

59-21062	Lab Id Sheet#	02/17/2000	Date Sampled	007012	Permit Number
12	Mine Id	14:30	Time Sampled	WELLINGTON PREP	Mine Name
15	Site Id		Sampler Name	GW-7	Site Name
CTE	Lab Code			WELL	Site Type
Commercial Testing & Engineering				NE OF RAILROAD TRACKS	Site Description

	Parameter	Type	EI	Value	Units	Min.Det.Limit	Method
	Received / Analyzed / By / Reported / Comments						
1	FIELD WATER TEMPERATURE	4		14.00000	Deg. C		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
2	PH (FIELD)	4		7.80000	pH units		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
3	DISSOLVED OXYGEN (FIELD)	4		0.00000	mg/l		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
4	SP. CONDUCTIVITY (FIELD)	4		5500.00000	umhos/cm		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
8	DEPTH	4		2.91000	m		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
11	FLOW	4		0.00000	GPM		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						
14	PH (LAB)	4		7.34000	pH units		EPA 150.1
	02/18/2000 02/18/2000 10:30 SC / / DISS BORON FILTERED @ LAB						
34	DISSOLVED BORON	4		0.80000	mg/l	0.100000	EPA 212.3
	02/18/2000 03/01/2000 8:00 MK / / DISS BORON FILTERED @ LAB						
36	DISSOLVED CALCIUM	4		229.00000	mg/l	1.000000	EPA 215.1
	02/18/2000 02/24/2000 13:00 MK / / DISS BORON FILTERED @ LAB						
	DISSOLVED IRON	4		7.90000	mg/l	0.100000	EPA 236.1
	02/18/2000 02/24/2000 10:00 MK / / DISS BORON FILTERED @ LAB						
41	DISSOLVED LEAD	4	<	0.10000	mg/l	0.100000	EPA 239.1
	02/18/2000 02/24/2000 12:30 MK / / DISS BORON FILTERED @ LAB						
42	DISSOLVED MAGNESIUM	4		202.00000	mg/l	1.000000	EPA 242.1
	02/18/2000 02/24/2000 13:30 MK / / DISS BORON FILTERED @ LAB						
43	DISSOLVED MANGANESE	4		0.70000	mg/l	0.100000	EPA 243.1
	02/18/2000 02/24/2000 10:45 MK / / DISS BORON FILTERED @ LAB						
45	DISSOLVED POTASSIUM	4		7.00000	mg/l	1.000000	EPA 258.1
	02/18/2000 02/24/2000 11:15 MK / / DISS BORON FILTERED @ LAB						
46	DISSOLVED SELENIUM	4	<	0.01000	mg/l	0.010000	EPA 270.2
	02/18/2000 03/24/2000 11:00 MK / / DISS BORON FILTERED @ LAB						
48	DISSOLVED SODIUM	4		868.00000	mg/l	1.000000	EPA 273.1
	02/18/2000 02/24/2000 11:45 MK / / DISS BORON FILTERED @ LAB						
50	BICARBONATE AS HCO3	4		590.00000	mg/l	5.000000	EPA 310.1
	02/18/2000 02/23/2000 8:50 KP / / DISS BORON FILTERED @ LAB						
52	CARBONATE AS CO3	4	<	5.00000	mg/l	5.000000	EPA 310.1
	02/18/2000 02/23/2000 8:50 KP / / DISS BORON FILTERED @ LAB						
53	CHLORIDE	4		120.00000	mg/l	1.000000	EPA 300.0
	02/18/2000 02/25/2000 11:11 SC / / DISS BORON FILTERED @ LAB						
60	SULFATE	4		2659.00000	mg/l	1.000000	EPA 300.0
	02/18/2000 03/15/2000 8:52 MK / / DISS BORON FILTERED @ LAB						
62	TOTAL ALKALINITY AS CACO3	4		484.00000	mg/l	5.000000	EPA 310.1
	02/18/2000 02/23/2000 8:50 KP / / DISS BORON FILTERED @ LAB						
	TOTAL HARDNESS AS CACO3	4		1404.00000	mg/l		SM2340-B
	02/18/2000 03/28/2000 12:00 RJ / / DISS BORON FILTERED @ LAB						
66	TURBIDITY (FIELD)	4		0.00000	NTU		
	02/18/2000 02/17/2000 / / DISS BORON FILTERED @ LAB						

O/C'd for EDI + update 4/26/2000 PW

Electronic Water Data Report By Individual Sample

59-21062	Lab Id Sheet#	**02/17/2000**	Date Sampled	**007012**	Permit Number
12	Mine Id	14:30	Time Sampled	**WELLINGTON PREP**	Mine Name
15	Site Id		Sampler Name	**GW-7**	Site Name
CTE	Lab Code			WELL	Site Type
Commercial Testing & Engineering				NE OF RAILROAD TRACKS	Site Description

	Parameter	Type	EI	Value	Units	Min.Det.Limit	Method
	Received / Analyzed / By / Reported / Comments						
67	**SPECIFIC CONDUCTIVITY (LAB)**	4		**5070.00000**	umhos/cm	1.000000	SM2510-B
	02/18/2000 03/13/2000 9:05 SC / / **DISS BORON FILTERED @ LAB**						
68	**TOTAL DISSOLVED SOLIDS, @ 180 C**	4		**4321.00000**	mg/l	10.000000	EPA 160.1
	02/18/2000 02/22/2000 12:00 SC / / **DISS BORON FILTERED @ LAB**						
133	**TOTAL CATIONS**	4		**66.00000**	meq/l		
	02/18/2000 03/27/2000 12:00 RJ / / **DISS BORON FILTERED @ LAB**						
134	**TOTAL ANIONS**	4		**66.30000**	meq/l		
	02/18/2000 03/28/2000 12:00 RJ / / **DISS BORON FILTERED @ LAB**						
145	**TOTAL IRON**	4		**11.50000**	mg/l	0.100000	EPA 236.1
	02/18/2000 03/15/2000 8:15 SC / / **DISS BORON FILTERED @ LAB**						
149	**TOTAL MANGANESE**	4		**0.90000**	mg/l	0.100000	EPA 243.1
	02/18/2000 03/15/2000 9:00 SC / / **DISS BORON FILTERED @ LAB**						
153	**TOTAL SELENIUM**	4	<	**0.01000**	mg/l	0.010000	EPA 270.2
	02/18/2000 03/24/2000 11:00 MK / / **DISS BORON FILTERED @ LAB**						
160	**TOTAL BORON**	4		**0.80000**	mg/l	0.100000	EPA 212.3
	02/18/2000 03/01/2000 8:00 MK / / **DISS BORON FILTERED @ LAB**						

WATER MONITORING REPORT - 1998

PROPERTY:	**WELLINTON LOADOUT SITE**
STATION:	**SW-7**
LOCATION:	**CLEARWATER POND**
TYPE:	**POND**
FREQUENCY:	**QUARTERLY**

	DATE SAMPLED
Field Measurements	**03/12/98**
Flow [gpm]	DRY
PH	
Sp. Cond. [ohms]	
Temp. [F]	
Diss. O [ppm]	
Lab. Measurements [mg/l]	
Al as HC03	
Al as C03	
Al Total CaC03	
Anions meg/l	
Calcium	
Cations meg/l	
Chloride	
Hard. Total	
Iron	
Magnesium	
Manganese, Diss.	
Potassium, Total	
Sodium, Total	
Solids sett.	
Sol. Tot. Diss.	
Sol. Tot. Sus.	
Sulfate	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-7
Location: Clearwater Pond
Type: Pond
Frequency: Quarterly

MB 2-10-98

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow [gpm]	DRY	DRY	DRY	DRY
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				
Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol. Set.				
Sol. Tot. Diss.				
Sol. Tot. Sus.				
Sulfate				

RC MB Vol 4

E.I.S. Hydrology
Field Measurements Form

Date 12/16/96 Station # SW-7

Company Earthco

Time 1055 HRS

CM 3113

Flow/Depth

pH

Specific Conductivity

Water Temperature

Air Temperature

Dissolved Oxygen

Type: Spring___ Stream___ Well___ Discharge___ NPDES___

Collection Point

Appearance of Water: Clear___ Milky___ Cloudy___ Opaque___

Quality Sample Taken: Yes___ No ✓

Pump Reading

Comments

Field Monitor Mike Hubbard

When Sample or Measurements Not Taken:

Reason: Dry

D = Dry F = Frozen N/A = Not Accessable N/R = Not Required

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-7
Location: Clearwater Pond
Type: Pond
Frequency: Quarterly

3-20-97 KAM

Field Measurements	Date Sampled 03/26/96	05/09/96	08/20/96	12/16/96	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-7
Location: Clearwater Pond
Type: Pond
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

All of 1993 was DRY (see multi-site pg)

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-7
Location: Clearwater Pond
Type: Pond
Frequency: Quarterly

SEE MULTI SITE PG

	Date Sampled			11 29	
Field Measurements	03/04/94	04/13/94	00/00/94	~~00/00~~/94	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol. Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

91SW-7

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-7

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-7

1990 SURFACE WATER DATA

COAL SYSTEMS, INC.
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-7

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	N/A	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meg/l				
ANION BALANCE	meg/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 7

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

CH 5/12

SAMPLE LOCATION: SW - 7

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				POND						Dry		
pH	standard				8.05								
Temp	o C				6								
Conductivity	umhos/cm				5000+.								
Aluminum	mg/l				<.1								
Arsenic	mg/l				<.01								
Barium	mg/l				<.01								
Bicarbonate	mg/l				186								
Boron	mg/l				1.12								
Cadmium	mg/l				<.01								
Calcium	mg/l				275								
Carbonate	mg/l				0								
Chloride	mg/l				344								
Chromium	mg/l				<.01								
Copper	mg/l				<.01								
Flouride	mg/l				1.37								
Hardness	mg/l				3120								
Iron Total	mg/l				0.67								
Lead	mg/l				<.01								
Magnesium	mg/l				390								
Manganese	mg/l				<.01								
Mercury	mg/l				<.0002								
Molybdenum	mg/l				<.01								
Nickel	mg/l				<.01								
Ammonia	mg/l				0.67								
Nitrate	mg/l				<.01								
Nitrite	mg/l				0.156								
Oil & Grease	mg/l				0.82								
Phosphate	mg/l				<.01								
Potassium	mg/l				18.2								
Selenium	mg/l				<.002								
Sodium	mg/l				1250								
Sulfate	mg/l				5520								
Sulfide	mg/l				<.1								
TDS	mg/l				8080								
TSS	mg/l				425								
Sett. Solids	mg/l				0.3								
Zinc	mg/l				<.01								
C - A Balance	meq/l				-.50								

GH 5/12

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012

1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-7

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Level (ft)			5362.4		5360.8							5353.0
pH			7.85		8.3							8.92
Temp. (°C)												4.
Conductiv.			3800.		3600.							3150.
Aluminum			<0.01		0.05							
Arsenic			<0.001		0.002							
Barium			0.01		0.03							
Bicarbon.			376.		305.							157.
Boron			0.55		0.49							
Cadmium			<0.001		<0.005							
Calcium			218.		226.							124.
Carbonate			<0.01		0.							0.
Chloride			81.2		91.							120.
Chromium			<0.010		<0.01							
Copper			0.04		<0.01							
Fluoride			0.38		0.51							
Hardness			1230.		1336.							1330.
Iron			0.16		0.05							0.07
Lead			<0.001		<0.02							
Magnesium			164.4		188.							216.
Manganese			0.20		0.13							0.25
Mercury			<0.0002		<0.0002							
Molybdenum			0.03		<0.05							
Nickel			<0.01		<0.02							
Ammonia			0.76		0.09							
Nitrate			0.36		0.02							
Nitrite			0.03									
Oil & Grease												<0.5
Phosphate			0.16		0.09							
Potassium			5.64		7.							12.4
Selenium			<0.001		0.002							
Sodium			340.		522.							602.
Sulfate			1530.		2021.							2360.
Sulfide			<0.10		0.2							
TDS			2520.		3262.							3890.
TSS			30.		16.							6.0
Sett. Solids												<0.1
Zinc			0.019		<0.01							
C-A Balance					-1.21							

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

CH 5-13

AR WATER POND
#SW-7***

Sampling Date	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow Not Applic.						
Aluminum, Al (Tot) mg/l	0.160	0.050	0.000	1.160	0.211	0.298
Ammonia, NH3-N mg/l	<.01	0.100	0.000	0.800	0.186	0.224
Arsenic, As (Tot) mg/l	<.001	<.001	0.000	0.002	.000	0.001
Barium, Ba (Tot) mg/l	0.040	0.040	0.010	0.200	0.053	0.046
Bicarbonate, HCO3 mg/l	281.000	387.000	241.600	414.800	324.247	52.012
Boron as B (Tot) mg/l	0.600	0.529	0.300	0.601	0.464	0.100
Cadmium, Cd (Tot) mg/l	0.009	<.001	0.000	0.009	0.001	0.003
Calcium, Ca mg/l	160.000	230.000	88.000	230.000	140.575	32.758
Carbonate as CO3 mg/l	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	69.400	81.400	33.000	95.000	70.908	15.583
Chromium, Cr (Tot) mg/l	0.017	0.002	0.000	0.017	0.004	0.006
Conductivity umhos/cm	3900.000	4300.000	2200.000	4300.000	3330.833	547.044
Copper (Tot) mg/l	<.01	<.01	0.000	0.040	0.016	0.014
Fluoride, F mg/l	0.540	0.410	0.230	0.660	0.468	0.119
Hardness, CaCO3 mg/l	990.000	1245.000	600.000	1245.000	834.000	163.569
Iron, Fe (Tot) mg/l	0.280	0.040	0.000	0.530	0.186	0.138
Lead, Pb (Tot) mg/l	0.009	<.001	0.000	0.060	0.009	0.017
Magnesium, Mg mg/l	141.600	160.800	72.000	160.800	116.075	21.868
Manganese, Mn (Tot) mg/l	0.090	0.220	0.010	0.220	0.092	0.070
Mercury, Hg mg/l	<.0002	<.0002	0.000	.000	.000	.000
ybdenum as Mo (Tot) mg/l	0.010	0.034	0.000	0.034	0.006	0.009
kel, Ni (Tot) mg/l	<.01	<.01	0.000	0.080	0.011	0.025
Nitrate, NO3-N mg/l	0.020	0.180	0.010	1.230	0.358	0.438
Nitrite as NO2-N mg/l	0.040	<.01	0.000	0.430	0.091	0.141
Phosphate PO4-P Ortho mg/l	<.01	0.340	0.000	0.490	0.112	0.150
Phosphate PO4-P Tot mg/l	0.080	0.100	0.040	0.580	0.200	0.160
Potassium, K mg/l	7.900	6.370	4.900	8.850	6.882	1.090
Selenium Se (Tot) mg/l	<.001	0.002	0.000	0.002	.000	0.001
Sodium, Na mg/l	469.000	449.000	281.000	476.000	402.125	60.813
Sulfate, SO4 mg/l	1600.000	1750.000	760.000	1750.000	1280.833	256.530
Sulfide as S mg/l	<.10	<.01	0.000	1.100	0.300	0.414
Suspended Solids mg/l	14.000	16.000	6.000	45.000	17.000	9.806
Total Dis. Solids mg/l	2620.000	3028.000	1500.000	3028.000	2215.583	384.405
Zinc, Zn (Tot) mg/l	0.038	0.014	0.000	0.110	0.037	0.032
pH Units	8.200	8.200	7.800	8.200	7.973	0.135

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

GH 5-13

[illegible]AR WATER POND
[illegible]SW-7***

Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-29-85	3-18-85	5-28-85	07-31-85
Flow Not Applic.									0.000	
Aluminum, Al (Tot) mg/l	0.057	0.257	0.220	0.070	1.160	0.153	0.200	0.210	<.010	<.001
Ammonia, NH3-N mg/l	0.400	0.350	0.200	0.010	0.020	0.100	0.080	0.100	<.01	0.150
Arsenic, As (Tot) mg/l	0.001	<.001	<.001	<.001	<.010	0.002	<0.001	<.001	<.001	<.001
Barium, Ba (Tot) mg/l	0.200	0.050	0.050	0.060	0.040	0.040	0.040	0.010	0.040	0.030
Bicarbonate, HCO3 mg/l	351.360	414.800	341.600	335.500	268.400	317.200	385.500	294.000	273.000	241.600
Boron as B (Tot) mg/l	0.380	0.300	0.350	0.476	0.599	0.391	0.420	0.409	0.601	0.510
Cadmium, Cd (Tot) mg/l	<.001	<.010	<.0010	<.001	0.007	<.001	<0.001	<.001	<.001	<.001
Calcium, Ca mg/l	144.000	128.000	120.000	88.000	112.000	138.000	136.000	157.100	137.000	136.000
Carbonate as CO3 mg/l	<.01	<.01	<.01	<.01	<.01	<.01	<0.01	<.01	<.01	<.01
Chloride, Cl mg/l	70.000	60.000	86.000	60.000	95.000	33.000	64.400	67.000	86.000	77.900
Chromium, Cr (Tot) mg/l	<.001	<.001	<.001	<.001	0.010	<.001	<0.001	0.002	0.016	0.005
Conductivity umhos/cm	3200	3200	2200	2690	3780	2950	3100	3350	3650.000	3650.000
Copper (Tot) mg/l	0.032	0.040	<.001	0.024	0.020	0.010	<0.001	0.020	0.030	0.010
Fluoride, F mg/l	0.560	0.660	0.230	0.490	0.430	0.520	0.370	0.330	0.630	0.440
Hardness, CaCO3 mg/l	800	775	600	635	725	780	806	937	885.000	830.000
Iron, Fe (Tot) mg/l	0.270	0.280	0.240	0.140	0.530	<.02	0.150	0.110	0.080	0.110
Lead, Pb (Tot) mg/l	0.002	<.001	<.001	0.021	0.060	<.001	<0.01	<.001	0.007	0.003
Magnesium, Mg mg/l	105.600	109.200	72.000	99.600	106.800	104.400	112.000	131.100	131.800	118.000
Manganese, Mn (Tot) mg/l	0.080	0.080	0.010	0.010	0.060	0.140	0.220	0.130	0.020	0.040
Mercury, Hg mg/l	<.0002	<.0002	<.0002	<.0002	<.0002	0.0003	<0.0002	<.0002	<.0002	<.0002
[illegible]lybdenum as Mo (Tot) mg/l	0.007	<.001	<.001	0.007	0.005	0.006	<0.05	0.006	<.001	<.01
[illegible]kel, Ni (Tot) mg/l	0.080	<.01	<.01	<.01	0.050	<.01	<0.01	<.01	<.01	<.05
Nitrate, NO3-N mg/l	1.010	1.230	0.220	0.150	0.010	0.010	0.340	0.070	0.020	1.040
Nitrite as NO2-N mg/l	0.130	0.050	0.360	0.020	0.430	0.030	0.030	<.01	<.01	<.01
Phosphate PO4-P Ortho mg/l	0.490	0.100	0.020	0.030	<.01	0.060	0.220	0.040	0.020	0.020
Phosphate PO4-P Tot mg/l	0.450	0.100	0.120	0.300	0.580	0.260	0.160	0.110	0.040	0.100
Potassium, K mg/l	7.700	5.600	4.900	6.200	8.850	6.500	7.400	5.940	7.520	7.700
Selenium Se (Tot) mg/l	<.001	<.001	<.001	<.001	<.001	<.001	<0.001	<.001	<.001	<.001
Sodium, Na mg/l	380.000	410.000	281.000	347.000	476.000	352.000	365.000	362.000	465.500	469.000
Sulfate, SO4 mg/l	1230	1180	760	980	1320	1170	1160	1300	1450.000	1470.000
Sulfide as S mg/l	0.200	<.01	1.100	1.000	0.800	0.500	<0.01	<.01	<.01	<.10
Suspended Solids mg/l	6	11	26	9	45	11.0	14.0	17.0	15.000	20.000
Total Dis. Solids mg/l	2120	2100	1500	1750	2426	1985	2060	2180	2426.000	2392.000
Zinc, Zn (Tot) mg/l	0.030	0.090	0.010	0.046	0.030	0.052	<0.002	0.009	0.110	0.015
pH Units	7.80	8.00	7.80	7.90	8.02	8.05	7.80	7.95	8.050	7.900

03-Jan-86

Electronic Water Data Report By Individual Sample

NO FLOW	Lab Id Sheet#	02/17/2000	Date Sampled	007012	Permit Number
12	Mine Id	16:00	Time Sampled	WELLINGTON PREP	Mine Name
8	Site Id		Sampler Name	SW-8	Site Name
NOF	Lab Code			UPDES	Site Type
No Flow				UPDES ?AUXILLIARY POND IN FRONT OF	Site Description

Parameter	Type	EI	Value	Units	Min.Det.Limit	Method
11 FLOW	10		0.00000	GPM		

Received	Analyzed	By	Reported	Comments
/ /	/ /		/ /	No Flow

OK for EDI + update
4/26/2000 KW

This set of data updated
to database 4/26/2000 KW
yellow highlight of errors fixed online

WATER MONITORING REPORT - 1998

PROPERTY:	WELLINTON LOADOUT SITE
STATION:	SW-8
LOCATION:	COARSE REFUSE PILE
TYPE:	
FREQUENCY:	QUARTERLY

	DATE SAMPLED
Field Measurements	03/12/98
Flow [gpm]	DRY
PH	
Sp. Cond. [ohms]	
Temp. [F]	
Diss. O [ppm]	
Lab. Measurements [mg/l]	
Al as HC03	
Al as C03	
Al Total CaC03	
Anions meg/l	
Calcium	
Cations meg/l	
Chloride	
Hard. Total	
Iron	
Magnesium	
Manganese, Diss.	
Potassium, Total	
Sodium, Total	
Solids sett.	
Sol. Tot. Diss.	
Sol. Tot. Sus.	
Sulfate	

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-8
Location: Coarse Refuse Pile
Type:
Frequency: Quarterly

MB 2-16-98

Field Measurements	Date Sampled 03/24/97	05/14/97	08/19/97	12/02/97
Flow [gpm]	DRY	DRY	DRY	DRY
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				
Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol Set.				
Sol. Tot. Diss.				
Sol. Tot. Sus.				
Sulfate				

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-8
Location: Coarse Refuse Pile
Type:
Frequency: Quarterly

Field Measurements	Date Sampled 03/26/96	08/20/96	12/10/96	Mean
Flow [gpm]	DRY	DRY	DRY	
PH				
Sp. Cond. [ohms]				
Temp. [F]				
Diss. O [ppm]				

Lab. Meas. [mg/l]				
Al as HCO3				
Al as C03				
Al Total				
Anions				
Calcium				
Cations				
Chloride				
Hard. Total				
Iron				
Magnesium				
Manganese				
Potassium				
Sodium				
Sol Set.				
Sol. Tot. Diss.				
Sol. Tot. Sus.				
Sulfate				

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-8
Location: Coarse Refuse Pile
Type:
Frequency: Quarterly

Field Measurements	Date Sampled 03/06/95	05/16/95	09/14/95	11/27/95	Mean
Flow [gpm]	DRY	DRY	DRY	DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

WATER MONITORING REPORT

Property: Castle Valley Resources
Station: SW-8
Location: Coarse Refuse Pile
Type:
Frequency: Quarterly

Field Measurements	Date Sampled 03/04/94	04/13/94	00/00/94	11/29 ~~00/00~~/94	Mean
Flow [gpm]	DRY	DRY		DRY	DRY
PH					
Sp. Cond. [ohms]					
Temp. [F]					
Diss. O [ppm]					
Lab. Meas. [mg/l]					
Al as HCO3					
Al as C03					
Al Total					
Anions					
Calcium					
Cations					
Chloride					
Hard. Total					
Iron					
Magnesium					
Manganese					
Potassium					
Sodium					
Sol Set.					
Sol. Tot. Diss.					
Sol. Tot. Sus.					
Sulfate					

SW-8

1991 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-8

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-	"	"	"	"
SPECIFIC COND.	umhos/cm	"	"	"	"
TEMP.	o C	"	"	"	"
DISSOLVED OXYGEN	ppm	"	"	"	"
		"	"	"	"
TOTAL SETTLEABLE SOLIDS	mg/l	"	"	"	"
TOTAL SUSPENDED SOLIDS	mg/l	"	"	"	"
TOTAL DISSOLVED SOLIDS	mg/l	"	"	"	"
TOTAL HARDNESS	mg/l	"	"	"	"
CARBONATE	mg/l	"	"	"	"
BICARBONATE	mg/l	"	"	"	"
CALCIUM	mg/l	"	"	"	"
CHLORIDE	mg/l	"	"	"	"
IRON	mg/l	"	"	"	"
MAGNESIUM	mg/l	"	"	"	"
TOTAL MANGANESE	mg/l	"	"	"	"
POTASSIUM	mg/l	"	"	"	"
SODIUM	mg/l	"	"	"	"
SULFATE	mg/l	"	"	"	"
OIL AND GREASE	mg/l	"	"	"	"
CATION BALANCE	meg/l	"	"	"	"
ANION BALANCE	meg/l	"	"	"	"

90SW-8

1990 SURFACE WATER DATA

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT
WATER QUALITY MONITORING DATA
ACT/007/012

SAMPLE LOCATION: SW-8

PARAMETER	units	MARCH	JUNE	SEPT.	DEC.
FLOW	gpm	DRY	DRY	DRY	DRY
PH	-				
SPECIFIC COND.	umhos/cm				
TEMP.	o C				
DISSOLVED OXYGEN	ppm				
TOTAL SETTLEABLE SOLIDS	mg/l				
TOTAL SUSPENDED SOLIDS	mg/l				
TOTAL DISSOLVED SOLIDS	mg/l				
TOTAL HARDNESS	mg/l				
CARBONATE	mg/l				
BICARBONATE	mg/l				
CALCIUM	mg/l				
CHLORIDE	mg/l				
IRON	mg/l				
MAGNESIUM	mg/l				
TOTAL MANGANESE	mg/l				
POTASSIUM	mg/l				
SODIUM	mg/l				
SULFATE	mg/l				
OIL AND GREASE	mg/l				
CATION BALANCE	meq/l				
ANION BALANCE	meq/l				

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1989 WATER MONITORING DATA

SAMPLE LOCATION: SW - 8

Parameter	Units	Jan 89	Feb 89	Mar 89	Apr 89	May 89	June 89	July 89	Aug 89	Sep 89	Oct 89	Nov 89	Dec 89
Flow	(gpm)												
pH	standard												
Temp	o C												
Conductivity	umhos/cm												
Dissolved Oxygen	ppm												
Aluminum	mg/l												
Arsenic	mg/l												
Barium	mg/l												
Bicarbonate	mg/l												
Boron	mg/l												
Cadmium	mg/l												
Calcium	mg/l												
Carbonate	mg/l												
Chloride	mg/l												
Chromium	mg/l												
Copper	mg/l												
Flouride	mg/l												
Hardness	mg/l												
Iron Total	mg/l												
Lead	mg/l												
Magnesium	mg/l												
Manganese	mg/l												
Mercury	mg/l												
Molybdenum	mg/l												
Nickel	mg/l												
Ammonia	mg/l												
Nitrate	mg/l												
Nitrite	mg/l												
Oil & Grease	mg/l												
Phosphate	mg/l												
Potassium	mg/l												
Selenium	mg/l												
Sodium	mg/l												
Sulfate	mg/l												
Sulfide	mg/l												
TDS	mg/l												
TSS	mg/l												
Sett. Solids	mg/l												
Zinc	mg/l												
C - A Balance	meq/l												

KAISER COAL CORPORATION
WELLINGTON PREPARATION PLANT
ACT/007/012

1988 WATER MONITORING DATA

SH 5-13

SAMPLE LOCATION: SW - 8

Parameter	Units	Jan 88	Feb 88	Mar 88	Apr 88	May 88	June 88	July 88	Aug 88	Sep 88	Oct 88	Nov 88	Dec 88
Flow	(gpm)				POND						Dry		
pH	standard				6.9								
Temp	o C				8								
Conductivity	umhos/cm				5000+.								
Aluminum	mg/l				<.1								
Arsenic	mg/l				<.01								
Barium	mg/l				<.01								
Bicarbonate	mg/l				173								
Boron	mg/l				0.22								
Cadmium	mg/l				<.01								
Calcium	mg/l				57.2								
Carbonate	mg/l				0								
Chloride	mg/l				47.7								
Chromium	mg/l				<.01								
Copper	mg/l				<.01								
Flouride	mg/l				0.5								
Hardness	mg/l				295								
Iron Total	mg/l				0.88								
Lead	mg/l				<.01								
Magnesium	mg/l				48.4								
Manganese	mg/l				<.01								
Mercury	mg/l				<.0002								
Molybdenum	mg/l				<.01								
Nickel	mg/l				<.01								
Ammonia	mg/l				<.1								
Nitrate	mg/l				<.01								
Nitrite	mg/l				1.29								
Oil & Grease	mg/l				0.71								
Phosphate	mg/l				0.038								
Potassium	mg/l				5.6								
Selenium	mg/l				<.002								
Sodium	mg/l				118								
Sulfate	mg/l				368								
Sulfide	mg/l				<.1								
TDS	mg/l				763								
TSS	mg/l				137								
Sett. Solids	mg/l				0.1								
Zinc	mg/l				<.01								
C - A Balance	meq/l				1.25								

SH 5-13

KAISER COAL CORPORATION - WELLINGTON PREPARATION PLANT - ACT/007/012
1986 WATER MONITORING DATA

SAMPLE LOCATION: SW-8

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Level (ft)												
pH			7.85		8.0							
Temp. (°C)												P
Conductiv.			10100.		9740.							
Aluminum			0.10		0.40							O
Arsenic			0.015		0.001							
Barium			<0.01		0.02							N
Bicarbon.			414.		360.							
Boron			0.54		0.73							D
Cadmium			<0.001		<0.005							
Calcium			246.		280.							
Carbonate			<0.01		0.							
Chloride			355.		520.							F
Chromium			0.050		<0.01							
Copper			0.04		<0.01							R
Fluoride			0.32		0.50							
Hardness			2260.		3201.							O
Iron			0.20		0.70							
Lead			<0.001		0.02							Z
Magnesium			394.8		610.							
Manganese			0.09		0.12							E
Mercury			<0.0002		<0.0002							
Molybdenum			0.08		<0.05							N
Nickel			<0.01		<0.02							
Ammonia			0.99		0.08							
Nitrate			0.09		0.02							
Nitrite			<0.01									
Oil & Grease												
Phosphate			0.03		0.05							
Potassium			6.24		9.							
Selenium			0.002		0.002							
Sodium			1505.		1920.							
Sulfate			4520.		5935.							
Sulfide			<0.10		0.2							
TDS			6950.		9958.							
TSS			58.		60.							
Sett. Solids												
Zinc			0.015		0.01							

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

ILIARY POND
SW-8

Sampling Date	9-26-85	11-22-85	MINIMUM	MAXIMUM	AVERAGE	STANDARD DEVIATION
Flow Not Applic.			0	0	0	
Aluminum, Al (Tot) mg/l	1.760	0.350	0.000	7.436	1.639	1.878
Ammonia, NH3-N mg/l	0.200	0.100	0.000	1.000	0.222	0.252
Arsenic, As (Tot) mg/l	0.002	0.002	0.000	0.017	0.003	0.005
Barium, Ba (Tot) mg/l	0.270	0.560	0.060	1.750	0.415	0.441
Bicarbonate, HCO3 mg/l	299.000	366.000	244.000	451.400	339.500	51.456
Boron as B (Tot) mg/l	0.690	0.478	0.250	0.833	0.509	0.171
Cadmium, Cd (Tot) mg/l	<.001	<.001	0.000	0.009	0.001	0.002
Calcium, Ca mg/l	212.000	230.000	40.000	230.000	143.717	50.176
Carbonate as CO3 mg/l	<.01	<.01	0.000	0.000	0.000	0.000
Chloride, Cl mg/l	87.200	105.000	65.000	141.000	88.850	19.656
Chromium, Cr (Tot) mg/l	0.020	0.005	0.000	0.053	0.015	0.016
Conductivity umhos/cm	4500.000	4320.000	2500.000	5200.000	3804.167	824.777
Copper (Tot) mg/l	0.060	0.050	0.003	0.070	0.036	0.020
Fluoride, F mg/l	0.540	0.440	0.370	2.970	0.709	0.686
Hardness, CaCO3 mg/l	1090.000	1200.000	615.000	1200.000	895.417	181.575
Iron, Fe (Tot) mg/l	1.890	0.550	0.550	11.200	2.194	2.811
Lead, Pb (Tot) mg/l	0.016	0.005	0.000	0.070	0.009	0.019
Magnesium, Mg mg/l	134.400	150.000	97.200	184.500	128.758	23.040
Manganese, Mn (Tot) mgl	0.100	0.180	0.010	0.290	0.150	0.071
Mercury, Hg mg/l	<.0002	<.0002	0.000	0.000	0.000	0.000
lybdenum as Mo (Tot) mg/l	0.030	0.035	0.000	0.035	0.008	0.012
ckel, Ni (Tot) mg/l	<.01	0.040	0.000	0.060	0.020	0.022
Nitrate, NO3-N mg/l	0.190	0.470	0.040	1.620	0.597	0.436
Nitrite as NO2-N mg/l	0.030	0.170	0.000	0.700	0.095	0.189
Phosphate PO4-P Ortho mg/l	<.01	0.270	0.000	0.530	0.117	0.159
Phosphate PO4-P Tot mg/l	0.200	0.430	0.050	1.200	0.335	0.325
Potassium, K mg/l	7.580	6.570	4.600	9.500	7.146	1.253
Selenium Se (Tot) mg/l	<.001	0.002	0.000	0.002	.000	0.001
Sodium, Na mg/l	526.000	474.000	301.000	675.000	455.583	92.622
Sulfate, SO4 mg/l	1820.000	1730.000	845.000	1820.000	1342.083	276.966
Sulfide as S mg/l	<.10	<.01	0.000	0.210	0.018	0.058
Suspended Solids mg/l	850.000	86.000	53.000	2476.000	457.667	648.808
Total Dis. Solids mg/l	2964.000	3042.000	1630.000	3390.000	2568.250	533.517
Zinc, An (Tot) mg/l	0.094	0.355	0.010	0.355	0.103	0.095
pH Units	8.150	8.000	7.600	9.250	8.067	0.387

U. S. STEEL MINING CO., INC. - WELLINGTON COAL CLEANING PLANT

CH5-13

LIARY POND
SW-8

Sampling Date	1-13-84	3-14-84	5-11-84	7-27-84	9-21-84	11-27-84	1-29-85	3-18-85	5-29-85	07-31-85
Flow Not Applic.	0	0	0	0	0				0.000	
Aluminum, Al (Tot) mg/l	0.088	1.920	1.800	2.050	1.570	7.436	0.850	0.900	0.940	(.001
Ammonia, NH3-N mg/l	0.350	0.250	(.10	0.160	0.150	0.100	1.000	0.230	0.070	0.050
Arsenic, As (Tot) mg/l	0.008	(.001	(.001	(.001	0.017	0.008	(0.001	(.001	(.001	(.001
Barium, Ba (Tot) mg/l	0.170	0.430	0.060	0.530	0.600	1.750	0.160	0.130	0.140	0.180
Bicarbonate, HCO3 mg/l	378.200	451.400	317.200	347.700	311.500	317.200	375.800	372.000	294.000	244.000
Boron as B (Tot) mg/l	0.290	0.260	0.250	0.555	0.672	0.833	0.470	0.540	0.566	0.500
Cadmium, Cd (Tot) mg/l	(.001	(.010	(.0010	(.001	0.009	(.001	(0.001	(.001	(.001	(.001
Calcium, Ca mg/l	160.000	150.000	40.000	84.000	104.000	138.800	140.500	186.200	143.100	136.000
Carbonate as CO3 mg/l	(.01	(.01	(.01	(.01	(.01	(.01	(0.01	(.01	(.01	(.01
Chloride, Cl mg/l	102.000	75.000	141.000	67.500	95.000	65.000	78.600	79.000	84.800	86.100
Chromium, Cr (Tot) mg/l	(.001	0.053	0.036	(.001	0.020	(.001	0.005	0.006	0.031	0.007
Conductivity umhos/cm	5100	5200	2500	2700	3600	3300	3050	3800	3800.000	3780.000
Copper (Tot) mg/l	0.035	0.070	0.010	0.033	0.030	0.050	0.003	0.030	0.050	0.010
Fluoride, F mg/l	0.540	2.970	0.370	0.580	0.610	0.560	0.400	0.430	0.610	0.460
Hardness, CaCO3 mg/l	1170	840	700	615	725	770	851	1040	894.000	850.000
Iron, Fe (Tot) mg/l	1.470	2.810	1.340	2.720	0.740	11.200	0.680	1.130	0.690	1.110
Lead, Pb (Tot) mg/l	0.004	(.001	(.001	(.001	0.070	(.001	(0.010	0.002	0.004	0.004
Magnesium, Mg mg/l	184.500	111.600	144.000	97.200	111.600	101.500	120.000	138.600	129.700	122.000
Manganese, Mn (Tot) mgl	0.210	0.130	0.010	0.200	0.080	0.290	0.190	0.190	0.120	0.100
Mercury, Hg mg/l	(.0002	(.0002	(.0002	(.0002	(.0002	(.0002	(0.0002	(.0002	(.0002	(.0002
ybdenum as Mo (Tot) mg/l	0.016	(.001	(.001	0.007	0.008	0.004	(0.05	(.001	(.001	(.01
kel, Ni (Tot) mg/l	0.050	0.030	(.01	(.01	0.060	(.01	0.040	(.01	0.020	(.05
Nitrate, NO3-N mg/l	1.130	1.620	0.820	0.270	0.630	0.040	0.650	0.740	0.530	0.070
Nitrite as NO2-N mg/l	0.110	(.01	0.700	0.030	(.01	0.030	0.060	0.010	(.01	(.01
Phosphate PO4-P Ortho mg/l	0.530	0.060	(.02	(.02	0.010	0.060	0.300	0.110	0.040	0.020
Phosphate PO4-P Tot mg/l	0.330	0.050	0.060	0.060	1.200	0.700	0.320	0.460	0.130	0.080
Potassium, K mg/l	8.500	6.000	4.600	6.600	9.500	6.400	7.700	7.020	6.780	8.500
Selenium Se (Tot) mg/l	(.001	(.001	(.001	(.001	(.001	(.001	(0.001	(.001	(.001	(.001
Sodium, Na mg/l	675.000	476.000	301.000	361.000	508.000	377.000	382.000	428.000	481.000	478.000
Sulfate, SO4 mg/l	1080	1340	845	995	1380	1200	1230	1470	1500.000	1515.000
Sulfide as S mg/l	0.210	(.01	(.01	(.01	(.01	(.01	(0.01	(.01	(.01	(.10
Suspended Solids mg/l	309.0	622.0	206.0	80.0	53.0	2476.0	200.0	234.0	138.000	238.000
Total Dis. Solids mg/l	3390	3380	1630	1775	2488	2170	2456	2498	2480.000	2546.000
Zinc, Zn (Tot) mg/l	0.040	0.080	0.010	0.107	0.058	0.242	0.035	0.056	0.122	0.039
pH Units	7.90	8.00	9.25	8.00	8.20	7.80	7.95	8.05	7.600	7.900

03-Jan-86

MB 4-25-98

WELLINGTON LOADOUT SITE

SURFACE WATER MONITORING

LOCATION	SAMPLE	DATE	TIME	SAMPLER	TEMP (C)	WATER LEVERL	pH	COND	COMMENTS
PRICE RIVER - UPSTREAM DISCHARGE SIAPERAS DITCH	SW-1								
PRICE RIVER - DOWNSTREAM PUMPHOUSE	SW-2	3/12/98		MC		—			
BELOW OLD DIVERSION DAM	SW-2A	"		MC		—			
DIVERSION DITCH - UPSTREAM HEAD END SIAPERAS DITCH E. END	SW-3	3/12/98	12:19	MC		Dry			
DIVERSION DITCH - DOWNSTREAM CULVERT FARNAM RD. SIAPERAS D.	SW-4	3/12/98	12:43	MC		1.25 gpm			
UPPER REFUSE POND - CENTER DIKE	SW-5	3/12/98	12:12	MC		Dry	—	Water Ditched Through Center	
LOWER REFUSE POND - SOUTH EAST END CLEAR WATER	SW-6	3/12/98	12:09	MC	NA	Dry	—	" " "	
CLEARWATER POND - WEST SPILLWAY	SW-7	3/12/98	12:00	MC	NA	Dry	—	—	
AUXILLARY POND IN FRONT OF OFFICE	SW-8	3/12/98	10:10	MC		Dry	—	—	

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL OIL AND GREASE
EPA METHOD 413.2

Client:	Earthco	Date Reported:	03/18/98
Project:	Wellington Loadout Site	Date Sampled:	03/12/98
Matrix:	Water	Date Received:	03/17/98
Condition:	Intact/Cool	Date Extracted:	03/17/98
		Date Analyzed:	03/18/98

Sample ID	Lab ID	Result (mg/L)	Detection Limit (mg/L)
SW-1	0398W01230	ND	1.0
SW-2	0398W01231	ND	1.0
SW-2A	0398W01232	ND	1.0
SW-4	0398W01233	ND	1.0

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil And Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: _____ Reviewed: _____

ACT/007/012

WELLINGTON

NEICO

SURFACE WATER MONITORING

LOCATION	SAMPLE NO.	DATE	TIME	SAMPLER	TEMP (C)	FLOW GPM	pH	COND	D.O.	COMMENTS
Price River - Upstream Discharge Siaperas Ditch	SW-1	12/2/97	10:27	O.S./M.C.	4°		8.37	2.96x100	8.0	
Price River - Downstream Pumphouse	SW-2	12/2/97	9:59	MC	4.		8.14	2.44	8.0	
Diversion Ditch - Upstream Head End Siaperas Ditch E. End	SW-3	12/2/97	9:59							dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaperas D.	SW-4	12/2/97	8:40	O.S./M.C.	4°	3.0	7.81	3.96x100	8.0	
Upper Refuse Pond Center Dike	SW-5									dry
Lower Refuse Pond South East End Clear Water	SW-6									dry
Clearwater Pond West Spillway	SW-7									dry
Auxillary Pond In Front of Office	SW-8									dry
Below Old Diversion Dam	SW2A	12/2/97	9:49	O.S./M.C.	3.0		8.16	2.83x100	7.0	

20' x 2' (50 CFS)
1.25 FPS

see mine's summary page
33.33 gpm

From Mine's spreadsheet summary page of the year

NB 2-16-98

7012 3
14060007
173823

18" x 4.0'
4.5 fps.

$1.5' \times 4.0' \times \frac{4.5'}{sec} = 27$ CFS

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

2-17-98

TOTAL OIL AND GREASE
EPA METHOD 413.2

Client: **Earthco-Neico**
Project: CVR Property
Matrix: Water
Condition: Intact/Cool

Date Reported: 12/16/97
Date Sampled: 12/02/97
Date Received: 12/05/97
Date Extracted: 12/15/97
Date Analyzed: 12/15/97

Sample ID	Lab ID	Result (mg/L)	Detection Limit (mg/L)
SW-1	0397W02843	ND	1.0
SW-2	0397W02844	ND	1.0
SW-2A	0397W02845	ND	1.0

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil And Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.
Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: _____ Reviewed: _____

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OCT 20 1997
DIV. OF OIL, GAS & MINING

RC MB 12-3-97

SURFACE WATER FIELD DATA.

~~CASTLE VALLEY RESOURCES~~
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING - enter in same record as lab data.

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW [redacted]	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	8/19/97	1120 HRS	MGH	1 19°	12 50 CFS	2 8.38	4 14.78 x 100	3 6.2 PPM	
Price River - Downstream Pumphouse	SW-2		1100 HRS		1 19°	12 50 CFS	2 8.08	4 16.46 x 100	3 6.4 PPM	
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3		0950 HRS							Dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4		1130 HRS		19°	1.5 GPM	8.26	3.51 x 1000	3.2 PPM	
Upper Refuse Pond Center Dike	SW-5		0940 HRS							Dry
Lower Refuse Pond South East End Clear Water	SW-6		1035 HRS							Dry
Clearwater Pond West Spillway	SW-7		1025 HRS							Dry
Auxilliary Pond In Front of Office	SW-8		1115 HRS							DRY

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL OIL AND GREASE
EPA METHOD 413.2

QC MB 12-3-97 # 11/20

Client:	**Neico**	Date Reported:	09/24/97
Project:	CVR	Date Sampled:	08/19/97
Matrix:	Water	Date Received:	08/26/97
Condition:	Intact/Cool	Date Extracted:	09/11/97
		Date Analyzed:	09/11/97

Sample ID	Lab ID	Result (mg/L)	Detection Limit (mg/L)
SW-1	0397W01804	ND	< 0.5
SW-2	0397W01805	ND	< 0.5
SW-4	0397W01806	ND	< 0.5

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil And Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: _____

Reviewed: _____

OPERATOR: EarthCo 637-4155 STEVE TRAWEEK

9-29-97
Lf. mess.
Steve called w/ answers

QC MB 9-9-97

COLLECTORS: EIS CM 811
MEL COONROD. 472-3814

(questionable readings on meter)

NEICO

SURFACE WATER MONITORING

LOCATION	SAMPLE NO.	DATE	TIME	SAMPLER	TEMP (C)	FLOW GPM (CFS)	pH	COND	D.O.	COMMENTS
Price River - Upstream Discharge Siaperas Ditch	SW-1	5/14/97	11:40	O.S.	12°	3.05 GPM 2.75 cfs	9.78	9.32 x 100	6.0	High Flow runoff 275 CFS
Price River - Downstream Pumphouse	SW-2	5/14/97	1130 HRS	MH	13°	3.18 GPM 2.86 cfs	9.79	9.45 x 100	6.4	286 CFS
Diversion Ditch - Upstream Head End Siaperas Ditch E. End	SW-3	5/14/97	1045 HRS	MH						DRY
Diversion Ditch - Downstream Culvert Farnam Rd. Siaperas D.	SW-4	5/14/97	1000 HRS	MH	15°	.75 GPM	8.66	4.70 x 1000	3.2	
Upper Refuse Pond Center Dike	SW-5	5/14/97	1050 HRS	MH						DRY
Lower Refuse Pond South East End Clear Water	SW-6	5/14/97	1100 HRS	MH						DRY
Clearwater Pond West Spillway	SW-7	5/14/97	1105 HRS	MH						DRY
Auxillary Pond In Front of Office	SW-8	5/14/97	1315 HRS	MH/DS						DRY

Patrick Collins (QUESTIONING FLOW?)
489-6937

9-22
Lf. mess.
will be back in town end of week

9-26-97
Pat said EarthCo is Mine operator &
Mel Coonrod samples water

Steve Traweek (EarthCo)
637-4155

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL OIL AND GREASE
EPA METHOD 413.2

QC MB 9-26-97

Client:	**Neico**	Date Reported:	05/22/97
Project:	CVR Plant	Date Sampled:	05/14/97
Matrix:	Surface Water	Date Received:	05/19/97
Condition:	Intact/Cool	Date Extracted:	05/21/97
		Date Analyzed:	05/22/97

Sample ID	Lab ID	Result (mg/L)	Detection Limit (mg/L)
SW-1	0397W00862	ND	1.0
SW-2	0397W00863	ND	1.0
SW-4	0397W00864	ND	1.0

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil and Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3510: Separatory Funnel Liquid-Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: _____

Reviewed: _____

CW B-2

EARTECO

SURFACE WATER MONITORING

LOCATION	SAMPLE NO.	DATE	TIME	SAMPLER	TEMP (C)	FLOW GPM	pH	COND	D.O.	COMMENTS
Price River - Upstream Discharge Siaperas Ditch	SW-1	3-24-97	0115hr	M.H, T.M.	7°C	390 GPM (52 CFS)	8.63	1.17x 1000	7.4 ppm	
Price River - Downstream Pumphouse	SW-2	3-24-97	0100 hr	M.H., T.M.	7°C	385 GPM (51.5 CFS)	8.18	1.36x 1000	7.5 ppm	
Diversion Ditch - Upstream Head End Siaperas Ditch E. End	SW-3	3-24-97	1205 hr	M.H., T.M.	–	–	–	–	–	DRY
Diversion Ditch - Downstream Culvert Farnam Rd. Siaperas D.	SW-4	3-24-97	1130 hr	M.H., T.M.	7°C	2	8.17	5.54x 1000	5.5 ppm	
Upper Refuse Pond Center Dike	SW-5	3-24-97	1210 hr	M.H., T.M.	–	–	–	–	–	DRY
Lower Refuse Pond South East End Clear Water	SW-6	3-24-97	1240 hr	M.H., T.M.	–	–	–	–	–	DRY
Clearwater Pond West Spillway	SW-7	3-24-97	1230 hr	M.H., T.M.	–	–	–	–	–	DRY
Auxillary Pond In Front of Office	SW-8	3-24-97	1110 hr	M.H., T.M.	–	–	–	–	–	DRY

SW-2a CVR property
1/8 mil bl weir

007/012
Wellington Prep Plant
(NEICO)

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW ~~GPM~~	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	12/16/96	1140 HRS	David Steed	6°C	107.5 CFS	7.89	3.24 x 1000	11.0	
Price River - Downstream Pumphouse	SW-2		1120 HRS	David Steed	6°C	75CFS	7.6	4.13 x 1000	9.75	
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3		1030 HRS	Mike Hubbard						Dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4		1135 HRS	David Steed	6°C	0.25	8.1	2.76 x 1000	8.75	
Upper Refuse Pond Center Dike	SW-5		1035 HRS	Mike Hubbard						Dry
Lower Refuse Pond South East End Clear Water	SW-6		1110 HRS	Mike Hubbard						Dry
Clearwater Pond West Spillway	SW-7		1055 HRS	Mike Hubbard						Dry
Auxilliary Pond In Front of Office	SW-8		1155 HRS	Mike Hubbard						Dry

RECEIVED
JAN 28 1997
DIVISION
GAS & MINING

Re Cum 5720 SH 5-14

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
NB 6-24-97 150 CFS Price River - Upstream Discharge Siaparas Ditch	SW-1	8/20/96	10:10	O.S./M.H	14°		8.09	2.52 x1000	8.0	2.0' DEEP ≈50'W ≈1.5 fps 150 CFS
Price River - Downstream Pumphouse	SW-2	8/20/96	11:10	O.S./M.H.	15.0°		7.9	2.6 x1000	8.0	4" over weir ≈1.5 fps 39.6 CFS
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	8/20/96	10:45	–	–	–	–	–	–	Dave @ EIS Dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	8/20/96	10:09	M.H./O.S.	13°	0.25 GPM	7.37	5.5 x1000	6.0	
Upper Refuse Pond Center Dike	SW-5	8/20/96	10:49	–	–	–	–	–	–	Dry
Lower Refuse Pond South East End Clear Water	SW-6	8/20/96	10:57	–	–	–	–	–	–	Dry
Clearwater Pond West Spillway	SW-7	8/20/96	10:59	–	–	–	–	–	–	DRY
Auxilliary Pond In Front of Office	SW-8	8/20/96	11:45	–	–	–	–	–	–	Dry

Cw 3/27

Dave Steed
FAX 472-8780

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	3/26/96	15:00	M.C./D.S.	5.0	10.26	6.94	1.3x1000	6ppm	
Price River - Downstream Pumphouse	SW-2	3/26/96	14:35	M.C./D.S.	6.0	6" over flume 10.31	6.85	1.6x1000	8ppm	
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	3/26/96		D.S.						Dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	3/26/96		"	–	–	–	–	–	"
Upper Refuse Pond Center Dike	SW-5	"		"	–	–	–	–	–	"
Lower Refuse Pond South East End Clear Water	SW-6	"		"	–	–	–	–	–	"
Clearwater Pond West Spillway	SW-7	"		"	–	–	–	–	–	"
Auxilliary Pond In Front of Office	SW-8	"		"	–	–	–	–	–	"

5-9-96 FLOW

SW-1

SW-2

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

~90 cfs

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS 3.19 cfs
Price River - Upstream Discharge Siaparas Ditch	SW-1	11/28/95	9:56	D.S.	10°	2.0 fps 20'x1.5'	6.83?	2.39 x1000	6 ppm avg.	1,431.0 Gallons/minute
Price River - Downstream Pumphouse	SW-2	11/28/95	10:35	D.S.	11°	1.8 fps 126'x.5'	6.66	2.56 x1000	8 ppm avg.	1,717.2 Gallons/minute 3.83 cfs
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	11/27/95	14:50	M.L.	—	— ~108 cfs	-	-	—	Dry
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	"	15:00	"	—	—	—	—	—	"
Upper Refuse Pond Center Dike	SW-5	"	14:40	"	—	—	—	—	—	"
Lower Refuse Pond South East End Clear Water	SW-6	"	14:20	"	—	—	—	—	—	"
Clearwater Pond West Spillway	SW-7	"	14:10	"	—	—	—	—	—	"
Auxilliary Pond In Front of Office	SW-8	"	11:20	"	—	—	—	—	—	"

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	9/14/95	13:24	D.S.	17°	>10	7.93	3.12 x1000	9.6	≈ 4 fps 50'W x 2.5-3'D
Price River - Downstream Pumphouse	SW-2	9/14/95	13.09	D.S.	18°	>10	7.84	2.04 x1000	9.6	6" deep over weir 6.5 fps
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	9/14/95	12:20	D.S.	–	–	–	–	–	
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	9/14/95	12:04	D.S.	–	–	–	–	–	
Upper Refuse Pond Center Dike	SW-5	9/14/95	12:23	D.S.	–	–	–	–	–	
Lower Refuse Pond South East End Clear Water	SW-6	9/14/95	12:37	D.S.	–	–	–	–	–	
Clearwater Pond West Spillway	SW-7	9/14/95	12:37	D.S.	–	–	–	–	–	
Auxilliary Pond In Front of Office	SW-8	9/14/95	12:42	D.S.	–	–	–		–	

5-16-95 FLOW

SW-1

SW-2

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	3/6/95	13:15	[illegible]	5.7	10 feet over 5 sec.	8.10	330	8	
Price River - Downstream Pumphouse	SW-2	3/6/95	13:00	[illegible]		4" full 100% Flow	8.01	305	8	
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3									
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4									
Upper Refuse Pond Center Dike	SW-5									
Lower Refuse Pond South East End Clear Water	SW-6									
Clearwater Pond West Spillway	SW-7									
Auxilliary Pond In Front of Office	SW-8									

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	11/29/94	12:30	D.S	2°C	>10	7.78	4.58	8.4ppm	
Price River - Downstream Pumphouse	SW-2	11/29/94	2:00 ~~1:30~~	D.S.	4°C	>10	7.93 ~~7.81~~	5.13 ~~4.95~~	8.4ppm	
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	11/29/94								DRY - FR
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4									DRY
Upper Refuse Pond Center Dike	SW-5									DRY
Lower Refuse Pond South East End Clear Water	SW-6									DRY
Clearwater Pond West Spillway	SW-7									DRY
Auxilliary Pond In Front of Office	SW-8									DRY

10-12-94 FLOW

SW-1

SW-2

14.6 m

QC MB 6-17-97

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	4/13/94	1:00 pm	T.W	13°C	—	7.39	3.41 x 1000	8 ppm	
Price River - Downstream Pumphouse	SW-2	4/13/94	12:35	T.W.	11°C		7.33	3.93 x1000	8 ppm	87' wide by 1½" deep
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	4/13				D				
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	4/13				D				
Upper Refuse Pond Center Dike	SW-5	4/13				D				
Lower Refuse Pond South East End Clear Water	SW-6	4/13				D				
Clearwater Pond West Spillway	SW-7	4/13				D				
Auxilliary Pond In Front of Office	SW-8	4/13				D				

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C)	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	3 4 94	1015	Jay	5.1		7.90	2.20 mS	14.9 PPM	
Price River - Downstream Pumphouse	SW-2	3 4 94	10:00	Jay	5.2	1582.68	8.01	2.23 mS	14.6 PPM	82' WIDE 3" DEEP
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	3 4 94	1030	Jay						DRY
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	3 4 94	1035	Jay						DRY
Upper Refuse Pond Center Dike	SW-5	3 4 94	1045	Jay						DRY
Lower Refuse Pond South East End Clear Water	SW-6	3 4 94	10:50	Jay						DRY
Clearwater Pond West Spillway	SW-7	3 4 94	10:55	Jay						DRY
Auxilliary Pond In Front of Office	SW-8	3 4 94	10:59	Jay						DRY

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL OIL AND GREASE
EPA METHOD 413.2

QC MD 6-17-97

Genwal Coal Company

Project: Castle Valley Resources
Matrix: Water
Condition: Intact/Cool

Date Reported: 05/05/94
Date Sampled: 04/13/94
Date Received: 04/18/94
Date Extracted: 05/02/94
Date Analyzed: 05/03/94

Sample ID	Lab ID	Result (mg/L)	Detection Limit
SW-1	272	1 X	1
SW-2	273	ND	1 X

ND - Analyte not detected at stated detection level.

References:

Method 413.2: Oil And Grease, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Sept. 1986.

Analyst: Austin Cooper

Reviewed: MH

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	#	DATE	TIME	SAMPLER	TEMP (°C) F	FLOW GPM	pH	COND	DISSOLVED OXYGEN	COMMENTS
Price River - Upstream Discharge Siaparas Ditch	SW-1	12/11/93	9:55	[illegible]	36.4		8.15	1190	10	
Price River - Downstream Pumphouse	SW-2	"	9:35	[illegible]	34.8	6409	8.01	1230	10	84' BANK TO BANK 1½" DEPTH
Diversion Ditch - Upstream Head End Siaparas Ditch East End	SW-3	"	9:10	[illegible]						DRY
Diversion Ditch - Downstream Culvert Farnam Rd. Siaparas Ditch	SW-4	"	11:40	[illegible]						DRY
Upper Refuse Pond Center Dike	SW-5	"	9:20	[illegible]						DRY
Lower Refuse Pond South East End Clear Water	SW-6	"	9:30	[illegible]						DRY
Clearwater Pond West Spillway	SW-7	"	9:50	[illegible]						DRY
Auxilliary Pond In Front of Office	SW-8	"	10:10	[illegible]						DRY

Q+12

NF

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream	SW-1	9-8-93	2:30P		20.5		7.76	2150	10	
Price River - Downstream	SW-2	9-8-93	1:55P	CM	19.5	8797	7.87	2230	11	78' 4" across 2" over flow
Diversion Ditch - Upstream	SW-3	9-8-93	3:40P	CM						DRY
Diversion Ditch - Downstream	SW-4	9-8-93	3:25P	CM						DRY
Upper Refuse Pond	SW-5	9-8-93	2:50P	CM						DRY
Lower Refuse Pond	SW-6	9-8-93	3:00P	CM						DRY
Clearwater Pond	SW-7	9-8-93	3:15P	CM						DRY
Auxiliary Pond	SW-8	9-8-93	4:00P	CM						DRY
										DRY
										DRY

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream	SW-1	6-2-93	1:55P	OM	9.6		8.04	1.66	10	
Price River - Downstream	SW-2	6-2-93	1:30P	OM	9.2	10,437	7.59	1.62	9	1 3/4" depth 101' width
Diversion Ditch - Upstream	SW-3	6-2-93	2:10P	OM						DRY
Diversion Ditch - Downstream	SW-4	6-2-93	1:50P	OM						DRY
Upper Refuse Pond	SW-5	6-2-93	12:00	OM						DRY
Lower Refuse Pond	SW-6	6-2-93	12:10P	OM						DRY
Clearwater Pond	SW-7	6-2-93	12:35P	OM						DRY
Auxiliary Pond	SW-8	6-2-93	8:55A	OM						DRY
Track Hopper		6-2-93	3:00P	OM	11.5		8.22	11.67	9	

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)F	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream	SW-1	3-3-93	1454	LD-CM	32		7.8	307	8	RUNOFF
Price River - Downstream	SW-2	3-3-93	1404	LD CM	35	5027	7.4	3.01	7	18" DEPTH 8" WIDTH RUNOFF
Diversion Ditch - Upstream	SW-3									DRY
Diversion Ditch - Downstream	SW-4									DRY
Upper Refuse Pond	SW-5									DRY
Lower Refuse Pond	SW-6									DRY
Clearwater Pond	SW-7									DRY
Auxiliary Pond	SW-8									DRY

(Dec) 4TH QUARTER 1992

SW-1	> 10 CFS ⇒?
SW-2	10.20 CFS

(Sep.) 3RD QUARTER 1992

SW-1 FLOW "1.25 cfs" ?

SW-2 "1.37 cfs" ?

(June) 2ND QUARTER 1992

SW-1 FLOW >10 cfs ⇒?

~~SW-2~~

CH 5-13

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL. NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River – Upstream	✓ SW-1	3-25-92	11:15A	CM	9.3		7.17	2100	11	
Price River – Downstream	✓ SW-2	3-24-92	10:50A	CM	8.4	10,220 (22.8 cfs)	7.16	1700	11	1.9" Deep 99" across
Diversion Ditch – Upstream	✓ SW-3	DRY	9:10A	CM						
Diversion Ditch – Downstream	✓ SW-4	DRY	9:25A	CM						
Upper Refuse Pond	✓ SW-5	DRY	10:05A	CM						
Lower Refuse Pond	✓ SW-6	DRY	10:20A	CM						
Clearwater Pond	✓ SW-7	DRY	11:30A	CM						
Auxiliary Pond	✓ SW-8	DRY	12:10P	CM						

Oil & grease on over Flow
Remainder on Top of over Flow
Fill directly into bottle

1.9 of 4 ft
99 ft. across

CH 5-13

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream	SW-1	12-19-91	2:26P	PM	2.2		7.43	1400	12	
Price River - Downstream	SW-2	12-19-91	2:52P	PM	1.9	7163	7.40	1300	12	1.6" 3.4' Across
Diversion Ditch - Upstream	SW-3	12-19-91	12:35P	PM						DRY
Diversion Ditch - Downstream	SW-4	12-19-91	12:50P	PM						DRY
Upper Refuse Pond	SW-5	12-19-91	1:15P	PM						DRY
Lower Refuse Pond	SW-6	12-19-91	1:25P	PM						DRY
Clearwater Pond	SW-7	12-19-91	1:40P	PM						DRY
Auxiliary Pond	SW-8	12-19-91	2:15P	PM						DRY

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SH 5-13

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream	SW-1	9-27-91	11:15A	CM	15.1		7.18	1700	6	
Price River - Downstream	SW-2	9-27-91	10:25A	CM	19.2	5,655	7.38	2000	6	1.3" 84' ACROSS
Diversion Ditch - Upstream	SW-3	9-27-91	8:05A	CM						DRY
Diversion Ditch - Downstream	SW-4	9-27-91	8:15A	CM						DRY
Upper Refuse Pond	SW-5	9-27-91	9:20A	CM						DRY
Lower Refuse Pond	SW-6	9-27-91	9:30A	CM						DRY
Clearwater Pond	SW-7	9-27-91	10:35A	CM						DRY
Auxiliary Pond	SW-8	9-27-91	3:50P	CM						DRY

Analytical Report

Mountain States Analytical

The Quality Solution

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project:

Date Samples Rec'd: 10/01/91
MSAI Group No.: 4421
Sample Matrix: Aqueous
Report Date: 10/19/91
P.O. Number:

LAB SAMPLE NO.	DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
21156	09/27/91	1025	Price River Down Stream	Calcium, FAA w/ww	79.9 mg/l
				Iron, FAA w/ww	0.92 mg/l
				Magnesium, FAA w/ww	105 mg/l
				Manganese, FAA w/ww	0.11 mg/l
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Potassium, FAA w/ww	16.0 mg/l
				Sodium, FAA w/ww	401 mg/l
				Total Anions	30.7 meq/l
				Total Cations	30.5 meq/l
				ALKALINITY, Bicarbonate	305 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	62.0 mg/l
				Fluoride, SIE w/ww	0.3 mg/l
				Nitrate, Nitrogen w/ww	1.01 mg/l N
				OIL & GREASE, w/ww	<2 mg/l
				Solids, Dissolved TDS	2,310 mg/l
				SOLIDS, Settleable	Cancell ml/hr/l
				Solids, Suspended (TSS)	55 mg/l
				Sulfate, Turbidimetric	1,150 mg/l
21157	09/27/91	1115	Price River Up Stream	Calcium, FAA w/ww	189 mg/l
				Iron, FAA w/ww	1.04 mg/l
				Magnesium, FAA w/ww	113 mg/l
				Manganese, FAA w/ww	0.13 mg/l
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Potassium, FAA w/ww	18.5 mg/l
				Sodium, FAA w/ww	424 mg/l
				Total Anions	35.2 meq/l
				Total Cations	37.7 meq/l
				ALKALINITY, Bicarbonate	308 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	64.5 mg/l
				Fluoride, SIE w/ww	0.3 mg/l
				Nitrate, Nitrogen w/ww	1.03 mg/l N
				OIL & GREASE, w/ww	<2 mg/l
				Solids, Dissolved TDS	2,560 mg/l
				SOLIDS, Settleable	Cancell ml/hr/l

Analytical Report

Mountain States Analytical
The Quality Solution

CH5-13

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-

Date Samples Rec'd: 10/01/91
MSAI Group No.: 4421

ATTN: Mr. Candy Manzanares
Project:

LAB SAMPLE NO.	SAMP DATE	SAMPLE TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
21157	09/27/91	1115	Price River Up Stream	Solids, Suspended (TSS)	61 mg/l
				Sulfate, Turbidimetric	1,360 mg/l

Respectfully submitted,

Douglas W. Later

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

CH 5 13

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River – Upstream	SW-1	6-24-91	8:30A	Om	17.7		7.57	2600	6	
Price River – Downstream	SW-2	6-24-91	9:40A	Om	16.8	2783	7.42	1500	5	1.5" deep 10' accross
Diversion Ditch – Upstream	SW-3	6-24-91	11:15A	Om						DRY
Diversion Ditch – Downstream	SW-4	6-24-91	8:45A	Om						DRY
Upper Refuse Pond	SW-5	6-24-91	10:20A	Om						DRY
Lower Refuse Pond	SW-6	6-24-91	10:35A	Om						DRY
Clearwater Pond	SW-7	6-24-91	8:45A	Om						DRY
Auxiliary Pond	SW-8	6-24-91	8:55A	Om						DRY

Analytical Report

Mountain States Analytical

The Quality Solution

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project:

Date Samples Rec'd: 06/26/91
MSAI Group No.: 3853
Sample Matrix: Aqueous
Report Date: 07/08/91
P.O. Number:

LAB SAMPLE NO.	DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
19061	06/26/91	0	SW-1 ✓ SH 5-13	Calcium, FAA w/ww	162. mg/l
				Iron, FAA w/ww	0.50 mg/l
				Magnesium, FAA w/ww	149. mg/l
				Manganese, FAA w/ww	0.04 mg/l
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Potassium, FAA w/ww	6.11 mg/l
				Sodium, FAA w/ww	390 mg/l
				Total Anions	25.7 meq/l
				Total Cations	37.5 meq/l
				ALKALINITY, Bicarbonate	235 mg/l CaCO3
				ALKALINITY, Carbonate	[illegible] mg/l CaCO3
				Chloride, Titrimetric	64.5 mg/l
				Hardness w/ww	9[illegible] mg/l CaCO3
				OIL & GREASE, Aqueous	10.6 mg/l
				Solids, Dissolved TDS	2,1[illegible] mg/l
				SOLIDS, Settleable	<0.2 ml/hr/l
				Solids, Suspended (TSS)	16.0 mg/l
				Sulfate, Turbidimetric	[illegible] mg/l
19062	06/26/91	0	SW-2 ✓ SH 5-13	Calcium, FAA w/ww	15[illegible] g/l
				Iron, FAA w/ww	0.3[illegible] mg/l
				Magnesium, FAA w/ww	162. mg/l
				Manganese, FAA w/ww	0.05 mg/l
				Metals Digestion w/ww	Complete ---
				Metals Prep. FAA	Complete ---
				Potassium, FAA w/ww	6.17 mg/l
				Sodium, FAA w/ww	231 mg/l
				Total Anions	25.2 meq/l
				Total Cations	31.4 meq/l
				ALKALINITY, Bicarbonate	240 mg/l CaCO3
				ALKALINITY, Carbonate	0 mg/l CaCO3
				Chloride, Titrimetric	67.0 m[illegible]/l
				Hardness w/ww	940 m[illegible] CaCO3
				OIL & GREASE, Aqueous	2.2[illegible] [illegible]/l
				Solids, Dissolved TDS	2,[illegible] g/l
				SOLIDS, Settleable	[illegible] ml/hr/l
				Solids, Suspended (TSS)	[illegible] mg/l
				Sulfate, Turbidimetric	[illegible]

Respectfully submitted,

Douglas W. Later

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

1645 West 2200 South, Salt Lake City, Utah 84119 (801) 973-0050 FAX (801) 972-6278

Member: American Council of Independent Laboratories, Inc.

MOUNTAIN STATES ANALYTICAL

ANALYTICAL REPORT

CLIENT: Castle Valley Resources
P.O. Box 766
Wellington, UT 84542-
Phone: 801-637-2342 801-637-9712 (FAX)
ATTN: Mr. Candy Manzanares
Project:

Date Samples Rec'd: 04/16/91
MSAI Group No.: 3428
Sample Matrix: Aqueous
Report Date: 05/01/91
P.O. Number:

LAB NO.	SAMPLE DATE	SAMP TIME	SAMPLE DESCRIPTION	ANALYSES PERFORMED	RESULT
17697	04/15/91	1057	Upper	OIL & GREASE, Aqueous	<2 mg/l
17698	04/15/91	1040	Lower	OIL & GREASE, Aqueous	<2 mg/l
17699	04/15/91	1055	SW-1 Upper	Cation/Anion Balance	-0.15 %
				Total Anions	40.3 meq/l
				Total Cations	34.6 meq/l
				SOLIDS, Settleable	0.3 ml/hr/l
17700	04/15/91	1042	SW-1 Lower	Cation/Anion Balance	0.16 %
				Total Anions	31.4 meq/l
				Total Cations	36.9 meq/l
				SOLIDS, Settleable	0.2 ml/hr/l

Respectfully submitted,

Douglas W. Later

Douglas W. Later, Ph.D.
Laboratory Director

Glenn A. Sorensen

Glenn A. Sorensen, B.S.
Manager, Technical Operations

NE033698

CH 5-13

CASTLE VALLEY RESOURCES
WELLINGTON PREPARATION PLANT

SURFACE WATER MONITORING

LOCATION	SAMPL NO.	DATE	TIME	SAMPLER	TEMP (°C)	FLOW (GPM)	pH	COND.	DISSOLV OXYGEN	COMMENTS
Price River - Upstream ✓	SW-1	3-20-91	9:05A	CM	3.4		7.44	1200	8	
Price River - Downstream ✓	SW-2	3-20-91	8:40A	CM	3.4	8443	7.46	1600	8	1.6" Deep 99' Across
Diversion Ditch - Upstream ✓	SW-3									DRY
Diversion Ditch - Downstream ✓	SW-4									DRY
Upper Refuse Pond ✓	SW-5									DRY
Lower Refuse Pond ✓	SW-6									DRY
Clearwater Pond ✓	SW-7									DRY
Auxiliary Pond ✓	SW-8									DRY
										DRY
										DRY

1990 FLOW Feild + ~~Lab~~

	March	June	Sept	Dec
SW-1				
~~SW-2~~ ~~SW-2~~				

1989 Field + Lab

	1 QRTR	2	3	4
SW-1				
SW-2				

RECEIVED
FEB 10 1988
DIVISION OF
OIL, GAS & MINING

Site	PH	COND	TEMP °C	OX_2	Time	DATE	BY	
Wellington PP								
SW-7	9.5	+5000	0°		8:40 A	11/17/87	BG	No Flow Pond
SW-2	6.17	2700	1°	6.5	900 A	11/17/87	BG	Price River
SW-4	7.7	3700	7°	—	945 A	11/17/87	BG	Diversion Ditch near Topsoil Pile
SW-8	8.15	1900	4°	—	10:10 A	11/17/87	BG	Next Prep Plant Pond.
SW-1	6.2	2600	1°	—	1215 P	11/17/87	BG	Price River.
SP3,5, BCW — were Dry								
UNDERGROUND								
MAN SHAFT #1, Drps Sump	7.5	1650	16°C	—	8:55 AM	11/24/87	BG	
Tr SHAFT #11	7.9	800	13°C	—	9:45	11/24/87	BG	
18th LEVEL #11 INSIDE SEAL	7.1	1450	17°	—	9:30 AM	11/24/87	BG	
14th Right #11 INSIDE SEAL	7.4	1500	16°C	—	9:10 AM	11/24/87	BG	
MAN SHAFT #11	7.8	700	5°C	—	10:00 AM	11/24/87	BG	
1st MINE MAIN SLOPE Sump	7.5	2500	15°C	—	10:45 AM	11/30/87	BG.	
15th #1 Right Sump	7.9	1400	13°C	—	11:10 AM	11/30/87	BG	
15th Rith Shaft Pic Canyon,	7.6	1100	8°C	—	11:30 AM	11/30/87	BG.	
# 3 MAIN Sump	7.4	2000	15°C	—		11/30/87	BG.	
12th #2 MINE Right Sump	7.5	1300	56°F	—		11/24/87		
WATER Canyon Sump	7.8	1700	62°F	—		11/24/87		

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

DATE: 1-7-88

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-1 11-17-87 @1215	SW-2 11-17-87 @0900	SW-4 11-17-87 @0945	DATE(TIME) ANALYSIS
LAB #:	U023015	U023016	U023017	
PARAMETER				
pH Units (lab)	8.37	8.13	7.74	11-23 @0910
Conductivity (lab), umhos/cm	3,460	3,480	4,340	11-23 @1030
Bicarbonate as HCO_3, mg/l	474	450	371	11-24 @1520
Carbonate as CO_3, mg/l	15.8	0	0	11-24 @1520
Chloride as Cl, mg/l	71.8	86.9	65.9	12-1 @1200
Hardness as $CaCO_3$, mg/l	1,470	1,460	1,290	12-17 @0900
Magnesium as Mg, mg/l	188	192	166	12-10 @0830
Potassium as K, mg/l	11.4	11.8	14.2	12-10 @0830
Calcium as Ca, mg/l	232	261	182	12-10 @0830
Sodium as Na, mg/l	382	386	692	12-10 @0830
Sulfate as SO_4, mg/l	1,900	1,880	2,390	11-24 @0930
TDS, mg/l	3,210	3,280	3,900	11-28 @1700
TSS, mg/l	130	65	9.2	11-28 @1610
Settleable Solids, ml/l	0.2	<.1	<.1	11-28 @1200
Fluoride as F, mg/l	1.67	1.03	1.16	11-24 @1000
Sulfide as S, mg/l	<.1	<.1	<.1	11-24 @0900
Ammonia as NH_3-N, mg/l	1.20	0.88	0.42	11-23 @1210
Nitrate as NO_3-N, mg/l	1.13	1.41	0.42	12-8 @0830
Nitrite as NO_2-N, mg/l	0.043	0.066	0.027	11-24 @1615
OrthoPhosphate as PO_4-P, mg/l	0.299	0.539	<.01	11-24 @1600

Rex Henderson

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

CH5-13

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Sunnyside, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-1 11-17-87 @1215	SW-2 11-17-87 @0900	SW-4 11-17-87 @0945	DATE(TIME) ANALYSIS
LAB #:	U023015	U023016	U023017	
PARAMETER				
Aluminum (T) as Al, mg/l	3.08	1.02	0.10	12-10 @0830
Arsenic (T) as As, mg/l	0.018	0.011	<.01	12-10 @0830
Barium (T) as Ba, mg/l	<.01	<.01	<.01	12-10 @0830
Boron (T) as B, mg/l	0.42	0.43	0.57	12-4 @0900
Cadmium (T) as Cd, mg/l	<.01	<.01	<.01	12-10 @0830
Chromium (T) as Cr, mg/l	<.01	<.01	<.01	12-10 @0830
Copper (T) as Cu, mg/l	<.01	<.01	<.01	12-10 @0830
Iron (T) as Fe, mg/l	3.05	0.77	0.058	12-10 @0830
Lead (T) as Pb, mg/l	0.015	<.01	<.01	12-10 @0830
Mercury (T) as Hg, mg/l	<.0002	<.0002	<.0002	12-10 @0830
Manganese (T) as Mn, mg/l	0.255	0.188	0.082	12-10 @0830
Molybdenum (T) as Mo, mg/l	0.060	<.01	<.01	12-10 @0830
Nickel (T) as Ni, mg/l	<.01	<.01	<.01	12-10 @0830
Selenium (T), as Se, mg/l	0.0021	<.002	<.002	12-10 @0830
Zinc (T), as Zn, mg/l	<.01	<.01	<.01	12-10 @0830

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

CH 5/13

SAMPLE SOURCE: Sunnyside, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-1 11-17-87 @1215	SW-2 11-17-87 @0900	SW-4 11-17-87 @0945	DATE(TIME) ANALYSIS
LAB #:	U023015	U023016	U023017	
PARAMETER				
Aluminum (D) as Al, mg/l	<.1	<.1	<.1	12-10 @0830
Arsenic (D) as As, mg/l	<.01	<.01	<.01	12-10 @0830
Barium (D) as Ba, mg/l	<.01	<.01	<.01	12-10 @0830
Boron (D) as B, mg/l	0.11	0.12	0.28	12-10 @0830
Cadmium (D) as Cd, mg/l	<.01	<.01	<.01	12-10 @0830
Chromium (D) as Cr, mg/l	<.01	<.01	<.01	12-10 @0830
Copper (D) as Cu, mg/l	<.01	<.01	<.01	12-10 @0830
Iron (D) as Fe, mg/l	<.01	<.01	<.01	12-10 @0830
Lead (D) as Pb, mg/l	<.01	<.01	<.01	12-10 @0830
Mercury (D) as Hg, mg/l	<.0002	<.0002	<.0002	12-10 @0830
Manganese (D) as Mn, mg/l	0.12	0.048	0.011	12-10 @0830
Molybdenum (D) as Mo, mg/l	<.01	<.01	<.01	12-10 @0830
Nickel (D) as Ni, mg/l	<.01	<.01	<.01	12-10 @0830
Selenium (D), as Se, mg/l	<.002	<.002	<.002	12-10 @0830
Zinc (D), as Zn, mg/l	<.01	<.01	<.01	12-10 @0830

Rex Henderson

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) ~~226-8822~~ 262-7299

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

SH 5/13

DATE: 1-7-88

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

SAMPLE SOURCE: Wellington, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-7 11-17-87 @0840	SW-8 11-17-87 @1010	DATE(TIME) ANALYSIS
LAB #:	U023018	U023019	
PARAMETER			
pH Units (lab)	8.08	8.18	11-23 @0910
Conductivity (lab), umhos/cm	8,870	2,500	11-23 @1030
Bicarbonate as HCO_3, mg/l	128	167	11-24 @1520
Carbonate as CO_3, mg/l	0	0	11-24 @1520
Chloride as Cl, mg/l	251	74.3	12-1 @1200
Hardness as $CaCO_3$, mg/l	3,270	741	12-17 @0900
Magnesium as Mg, mg/l	210	141	12-10 @0830
Potassium as K, mg/l	24.3	11.5	12-10 @0830
Calcium as Ca, mg/l	360	124	12-10 @0830
Sodium as Na, mg/l	1,380	332	12-10 @0830
Sulfate as SO_4, mg/l	4,050	1,270	11-24 @0930
TDS, mg/l	7,620	2,060	11-18 @1700
TSS, mg/l	40	16	11-28 @1610
Settleable Solids, ml/l	<.1	<.1	11-28 @1200
Fluoride as F, mg/l	1.49	0.78	11-24 @1000
Sulfide as S, mg/l	<.1	<.1	11-24 @0900
Ammonia as NH_3-N, mg/l	0.31	0.26	11-23 @1210
Nitrate as NO_3-N, mg/l	0.012	<.01	12-8 @0830
Nitrite as NO_2-N, mg/l	<.01	0.019	11-24 @1615
OrthoPhosphate as PO_4-P, mg/l	0.049	0.014	11-24 @1600

Rex Henderson

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

367 SOUTH COMMERCE LOOP
OREM, UTAH 84057
(801) 226-8822

2875 MAIN
SUITE #101
SALT LAKE CITY, UTAH 84115
(801) 483-1162

TO: Kaiser Coal Corp.
P.O. Box 10
Sunnyside, UT 84539

CH 5-13

SAMPLE SOURCE: Sunnyside, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-7 11-17-87 @0840	SW-8 11-17-87 @1010	DATE(TIME) ANALYSIS
LAB #:	U023018	U023019	
PARAMETER note (T) = Total			
Aluminum (T) as Al, mg/l	0.20	0.40	12-10 @0830
Arsenic (T) as As, mg/l	0.014	0.011	12-10 @0830
Barium (T) as Ba, mg/l	<.01	<.01	12-10 @0830
Boron (T) as B, mg/l	1.24	0.41	12-4 @0900
Cadmium (T) as Cd, mg/l	<.01	<.01	12-10 @0830
Chromium (T) as Cr, mg/l	<.01	<.01	12-10 @0830
Copper (T) as Cu, mg/l	<.01	<.01	12-10 @0830
Iron (T) as Fe, mg/l	0.33	0.21	12-10 @0830
Lead (T) as Pb, mg/l	<.01	<.01	12-10 @0830
Mercury (T) as Hg, mg/l	<.0002	<.0002	12-10 @0830
Manganese (T) as Mn, mg/l	0.120	0.020	12-10 @0830
Molybdenum (T) as Mo, mg/l	0.085	0.070	12-10 @0830
Nickel (T) as Ni, mg/l	<.01	<.01	12-10 @0830
Selenium (T), as Se, mg/l	<.002	<.002	12-10 @0830
Zinc (T), as Zn, mg/l	<.01	<.01	12-10 @0830

Rex Henderson

Rex Henderson

CHEMTECH

CHEMICAL AND BACTERIOLOGICAL ANALYSES

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SAMPLE SOURCE: Sunnyside, Submitted on 11-23-87

CERTIFICATE OF ANALYSIS

SAMPLE ID:	SW-7 11-17-87 @0840	SW-8 11-17-87 @1010	DATE(TIME) ANALYSIS
LAB #:	U023018	U023019	
PARAMETER note (D) = DISSOLVED			
Aluminum (D) as Al, mg/l	<.1	<.1	12-10 @0830
Arsenic (D) as As, mg/l	<.01	<.01	12-10 @0830
Barium (D) as Ba, mg/l	<.01	<.01	12-10 @0830
Boron (D) as B, mg/l	0.66	0.13	12-10 @0830
Cadmium (D) as Cd, mg/l	<.01	<.01	12-10 @0830
Chromium (D) as Cr, mg/l	<.01	<.01	12-10 @0830
Copper (D) as Cu, mg/l	<.01	<.01	12-10 @0830
Iron (D) as Fe, mg/l	<.01	<.01	12-10 @0830
Lead (D) as Pb, mg/l	<.01	<.01	12-10 @0830
Mercury (D) as Hg, mg/l	<.0002	<.0002	12-10 @0830
Manganese (D) as Mn, mg/l	0.012	<.01	12-10 @0830
Molybdenum (D) as Mo, mg/l	<.01	<.01	12-10 @0830
Nickel (D) as Ni, mg/l	<.01	<.01	12-10 @0830
Selenium (D), as Se, mg/l	<.002	<.002	12-10 @0830
Zinc (D), as Zn, mg/l	<.01	<.01	12-10 @0830

Rex Henderson

Ford Chemical
LABORATORY, INC.
Bacteriological and Chemical Analysis
40 WEST LOUISE AVENUE
SALT LAKE CITY, UTAH 84115
PHONE 466-8761

QC cw 5/19

DATE: 10/22/84

CERTIFICATE OF ANALYSIS

U.S. STEEL CORP.
P.O. BOX AE
PAONIA, CO
V.R. WATTS 81428

84-003653

SAMPLE: WATER SAMPLES FROM COAL CLEANING PLANT COLLECTED 9-21-84
RECEIVED 9-24-84 FOR ANALYSIS UNDER P.O. 599-70550-208.

	SW-1	SW-2	SW-4	SW-5	SW-6
Aluminum, Al (Tot) mg/l SM306A	36.000	26.000	1.830	51.000	.820
Ammonia, NH3-N mg/l SM417C	.36	.10	.38	.36	.14
Arsenic, As (Tot) mg/l SM304	<.010	.015	<.010	.017	<.010
Barium, Ba (Tot) mg/l SM303A	.90	1.35	.05	10.20	.05
Bicarbonate, HCO3 mg/l SM403	286.70	335.50	457.50	366.00	323.30
Boron as B Total mg/l	.366	.323	.522	3.930	.710
Cadmium, Cd (Tot) mg/l SM304	.015	.014	.010	.016	.008
Calcium, Ca mg/l SM303A	140.00	128.00	264.00	114.00	104.00
Carbonate as CO3 mg/l SM403	<.01	<.01	<.01	<.01	<.01
Chloride, Cl mg/l SM407A	35.0	35.0	75.0	100	100
Chromium, Cr (Tot) mg/l SM303A	.060	.060	.010	.080	.010
Conductivity umhos/cm SM205	1,900	1,500	4,300	3,500	3,950
Copper, Cu (Tot) mg/l SM303A	.110	.200	.030	.190	.030

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Ford Chemical
LABORATORY, INC.
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-003653

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F ms/l SM413B	.22	.24	.30	.84	.71
Hardness,CaCO3 ms/l SM309R	685	620	1,285	705	700
Iron, Fe (Tot) ms/l SM303A	48.50	45.50	.39	89.00	.12
Lead, Pb (Tot) ms/l SM303A	.210	.140	.120	.380	.090
Magnesium, Mg ms/l SM303A	80.40	72.00	150.00	36.00	105.50
Manganese,Mn (Tot) msl SM303A	1.19	1.11	.31	1.01	.03
Mercury, Hg ms/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo (Tot) ms/l	.009	.013	.006	.015	.010
Nickel, Ni (Tot) ms/l SM249.2	.15	.14	.07	.19	.05
Nitrate, NO3-N ms/l SM418C	.58	1.07	.07	.57	.04
Nitrite as NO2-N ms/l	<.01	1.18	<.01	.18	<.01
Phosphate PO4-P Ortho ms/l	.02	.14	<.01	<.01	<.01
Phosphate PO4-P Tot ms/l	2.80	.22	.29	2.40	.48
Potassium, K ms/l SM303A	5.95	6.35	9.70	11.70	10.60
Selenium, Se Tot. ms/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na ms/l SM303A	118.00	130.00	432.00	575.00	587.00
Sulfate, SO4 ms/l SM426D	620	550	1,660	1,230	1,500

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CERTIFICATE OF ANALYSIS
83-003653

	SW-1	SW-2	SW-4	SW-5	SW-6
Sulfide as S mg/l EPA 9030	<.01	<.01	1.50	<.01	1.30
Suspended Solids mg/l SM 209D	7,220	3,488	14.0	12,372	13.0
Total Dis. Solids mg/l SM209B	1,174	1,128	2,850	2,250	2,720
Zinc, Zn (Tot) mg/l SM303A	.240	.262	.023	.730	.020
pH Units SM423	7.80	7.35	8.10	8.18	8.40

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-003653

	SW-7	SW-8
Aluminum, Al (Tot) mg/l SM306A	1.160	1.570
Ammonia, NH3-N mg/l SM417C	.02	.15
Arsenic, As (Tot) mg/l SM304	<.010	.017
Barium, Ba (Tot) mg/l SM303A	.04	.60
Bicarbonate, HCO3 mg/l SM403	268.40	311.10
Boron as B Total mg/l	.599	.672
Cadmium, Cd (Tot) mg/l SM304	.007	.009
Calcium, Ca mg/l SM303A	112.00	104.00
Carbonate as CO3 mg/l SM403	<.01	<.01
Chloride, Cl mg/l SM407A	95.0	95.0
Chromium, Cr (Tot) mg/l SM303A	.010	.020
Conductivity umhos/cm SM205	3,780	3,600
Copper, Cu (Tot) mg/l SM303A	.020	.030
Fluoride, F mg/l SM413B	.43	.61
Hardness, CaCO3 mg/l SM309R	725	725
Iron, Fe (Tot) mg/l SM303A	.53	.74
Lead, Pb (Tot) mg/l SM303A	.060	.070

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-003653

	SW-7	SW-8
Magnesium, Mg mg/l SM303A	106.80	111.60
Manganese, Mn (Tot) mgl SM303A	.06	.08
Mercury, Hg mg/l SM320A	<.0002	<.0002
Molybdenum as Mo (Tot) mg/l	.005	.008
Nickel, Ni (Tot) mg/l SM249.2	.05	.06
Nitrate, NO3-N mg/l SM418C	.01	.63
Nitrite as NO2-N mg/l	.43	<.01
Phosphate PO4-P Ortho mg/l	<.01	.01
Phosphate PO4-P Tot mg/l	.58	1.20
Potassium, K mg/l SM303A	8.85	9.50
Selenium, Se Tot. mg/l SM304	<.001	<.001
Sodium, Na mg/l SM303A	476.00	508.00
Sulfate, SO4 mg/l SM426D	1,320	1,380
Sulfide as S mg/l EPA 9030	.80	<.01
Suspended Solids mg/l SM 209D	45.0	53.0
Total Dis. Solids mg/l SM209B	2,426	2,488
Zinc, Zn (Tot) mg/l SM303A	.030	.058

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-003653

	SW-7	SW-8
pH Units SM423	8.02	8.20

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LABORATORY, INC.
Bacteriological and Chemical Analysis
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

RECEIVED
SEP 20 1984
DIVISION OF OIL
GAS & MINING

DATE: 09/06/84

QC umsw

CERTIFICATE OF ANALYSIS

U.S. STEEL CORP.
P.O. BOX AE
PAONIA, CO
V.R. WATTS 81428

84-002960

SAMPLE: SURFACE WATER SAMPLES FROM COAL CLEANING PLANT COLLECTED 7-27-84 RECEIVED 8-10-84 FOR ANALYSIS UNDER P.O. #599-70550-205.

	SW-1	SW-2	SW-4	SW-5	SW-6
Aluminum, Al (Tot) mg/l SM306A	81.000	119.900	1.790	24.500	.120
Ammonia, NH3-N mg/l SM417C	.35	.12	.37	.37	.14
Arsenic, As (Tot) mg/l SM304	<.001	.013	<.001	<.001	<.001
Barium, Ba (Tot) mg/l SM303A	.99	1.29	.08	9.94	.06
Bicarbonate, HCO3 mg/l SM403	408.70	292.80	338.50	317.20	359.90
Boron as B Total mg/l	.609	.729	.215	2.180	.699
Cadmium, Cd (Tot) mg/l SM304	.003	.003	<.001	.004	<.001
Calcium, Ca mg/l SM303A	220.00	176.00	118.00	80.00	84.00
Carbonate as CO3 mg/l SM403	<.01	<.01	<.01	<.01	<.01
Chloride, Cl mg/l SM407A	38.4	39.4	28.9	74.6	91.8
Chromium, Cr (Tot) mg/l SM303A	<.001	<.001	<.001	.046	<.001
Conductivity umhos/cm SM205	2,400	1,950	1,500	800	3,800
Copper, Cu (Tot) mg/l SM303A	.160	.208	.026	.208	.028

SEP 10 1984
WESTERN DIVISION
ACCOUNTING

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F mg/l SM413B	.42	.35	.30	.67	.76
Hardness,CaCO3 mg/l SM309R	850	715	545	545	785
Iron, Fe (Tot) mg/l SM303A	149.50	206.50	2.98	55.50	.18
Lead, Pb (Tot) mg/l SM303A	.390	.390	.037	.430	.080
Magnesium, Mg mg/l SM303A	72.00	66.00	60.00	82.80	138.00
Manganese,Mn (Tot) mgl SM303A	3.80	3.40	.09	1.07	.01
Mercury, Hg mg/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo (Tot) mg/l	.010	.012	<.005	.013	.009
Nickel, Ni (Tot) mg/l SM249.2	.35	.49	<.01	.03	<.01
Nitrate, NO3-N mg/l SM418C	.54	.55	.15	.58	.25
Nitrite as NO2-N mg/l	.17	.08	<.01	.13	<.01
Phosphate PO4-P Ortho mg/l	.03	.03	.07	.02	<.02
Phosphate PO4-P Tot mg/l	9.40	6.40	.70	.90	.06
Potassium, K mg/l SM303A	10.60	7.85	9.35	9.60	9.45
Selenium, Se Tot. mg/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na mg/l SM303A	175.00	125.00	120.00	397.00	523.00
Sulfate, SO4 mg/l SM426D	830	680	470	1,020	1,450

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PHONE 466-8761

CERTIFICATE OF ANALYSIS

	SW-1	SW-2	SW-4	SW-5	SW-6
Sulfide as S mg/l EPA 9030	<.01	<.01	1.60	<.01	1.50
Suspended Solids mg/l SM 209D	14,896	9,505	125	9,035	24.0
Total Dis. Solids mg/l SM209B	1,560	1,250	980	1,820	2,460
Zinc, Zn (Tot) mg/l SM303A	.707	.948	.071	.708	.047
pH Units SM423	7.40	7.40	8.00	7.70	8.00

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PHONE 466-8761

CERTIFICATE OF ANALYSIS

	SW-7	SW-8
Aluminum,Al (Tot) mg/l SM306A	.070	2.050
Ammonia, NH3-N mg/l SM417C	.01	.16
Arsenic, As (Tot) mg/l SM304	<.001	<.001
Barium, Ba (Tot) mg/l SM303A	.06	.53
Bicarbonate,HCO3 mg/l SM403	335.50	347.70
Boron as B Total mg/l	.476	.555
Cadmium,Cd (Tot) mg/l SM304	<.001	<.001
Calcium, Ca mg/l SM303A	88.00	84.00
Carbonate as CO3 mg/l SM403	<.01	<.01
Chloride, Cl mg/l SM407A	60.8	67.5
Chromium,Cr (Tot) mg/l SM303A	<.001	<.001
Conductivity umhos/cm SM205	2,690	2,700
Copper, Cu (Tot) mg/l SM303A	.024	.033
Fluoride, F mg/l SM413B	.49	.58
Hardness,CaCO3 mg/l SM309R	635	615
Iron, Fe (Tot) mg/l SM303A	.14	2.72
Lead, Pb (Tot) mg/l SM303A	.021	<.001

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PHONE 466-8761

CERTIFICATE OF ANALYSIS

	SW-7	SW-8
Magnesium, Mg mg/l SM303A	99.60	97.20
Manganese, Mn (Tot) mgl SM303A	.01	.20
Mercury, Hg mg/l SM320A	<.0002	<.0002
Molybdenum as Mo (Tot) mg/l	.007	.007
Nickel, Ni (Tot) mg/l SM249.2	<.01	<.01
Nitrate, NO3-N mg/l SM418C	.15	.27
Nitrite as NO2-N mg/l	.02	.03
Phosphate PO4-P Ortho mg/l	.03	<.02
Phosphate PO4-P Tot mg/l	.30	.06
Potassium, K mg/l SM303A	6.20	6.60
Selenium, Se Tot. mg/l SM304	<.001	<.001
Sodium, Na mg/l SM303A	347.00	361.00
Sulfate, SO4 mg/l SM426D	980	995
Sulfide as S mg/l EPA 9030	1.00	<.01
Suspended Solids mg/l SM 209D	9.0	80.0
Total Dis. Solids mg/l SM209B	1,750	1,775
Zinc, Zn (Tot) mg/l SM303A	.046	.107

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Bacteriological and Chemical Analysis
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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS

	SW-7	SW-8
pH Units SM423	7.90	8.00

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Ford Chemical
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SALT LAKE CITY, UTAH 84115
PHONE 466-8781

Qe un 5119

DATE: 06/20/84

CERTIFICATE OF ANALYSIS

U.S. STEEL CORP.
P.O. BOX AE
PAONIA, CO
W.R. WATTS 81428

84-009725

SAMPLE: SURFACE WATER SAMPLES FROM COAL CLEANING PLANT COLLECTED 5-11-84 RECEIVED 5-16-84 FOR ANALYSIS UNDER P.O. #599-70550-195.

	SW-1	SW-2	SW-4	SW-5	SW-6
Aluminum, Al (Dis) mg/l SM306A	8.600	12.200	.250	1.300	.210
Ammonia, NH3-N mg/l SM417C	<.10	<.10	.15	<.10	.20
Arsenic, As (Dis) mg/l SM304	<.001	.015	<.001	<.001	<.001
Barium, Ba (Dis) mg/l SM303A	.36	.30	.04	.30	.04
Bicarbonate, HCO3 mg/l SM403	457.50	335.50	433.10	427.00	402.60
Boron as B (Dissolved) mg/l	.600	.500	.400	.400	.500
Cadmium, Cd (Dis) mg/l SM304	<.0010	<.0010	<.0010	<.0010	<.0010
Calcium, Ca mg/l SM303A	160.00	160.00	460.00	160.00	140.00
Carbonate as CO3 mg/l SM403	<.01	<.01	<.01	<.01	<.01
Chloride, Cl mg/l SM407A	33.5	21.3	174	120	158
Chromium, Cr (Dis) mg/l SM303A	.065	.040	.001	.002	<.001
Conductivity umhos/cm SM205	960	990	8,400	2,800	2,700
Copper (Dis) mg/l SM303A	<.001	.010	.020	<.001	<.001

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SALT LAKE CITY, UTAH 84115
PHONE 486-8761

CERTIFICATE OF ANALYSIS
83-009725

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F mg/l SM413B	.29	.37	.26	.50	.79
Hardness,CaCO3 mg/l SM309R	500	500	2,400	450	700
Iron, Fe (Tot) mg/l SM303A	39.00	44.20	.24	77.60	.29
Lead, Pb (Dis) mg/l SM303A	.002	.021	<.005	<.001	.020
Magnesium, Mg mg/l SM303A	24.00	24.00	300.00	12.00	84.00
Manganese,Mn (Dis) mgl SM303A	.02	.02	.01	<.01	<.01
Mercury, Hg mg/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo (Diss) mg/l	<.001	<.001	<.001	<.001	<.001
Nickel, Ni (Dis) mg/l SM249.2	.04	.07	<.01	<.01	<.01
Nitrate, NO3-N mg/l SM418C	.64	.77	1.10	.33	1.00
Nitrite as NO2-N mg/l	.65	.71	.65	.70	.70
Phosphate PO4-P Ortho mg/l	.06	.03	.02	<.02	.04
Phosphate PO4-P Tot. mg/l	.15	.05	.04	.14	.03
Potassium, K mg/l SM303A	9.8	2.4	16.0	7.3	9.9
Selenium Se Dis. mg/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na mg/l SM303A	34.10	36.20	840.00	430.00	563.00
Sulfate, SO4 mg/l SM426D	140	250	3,470	880	1,300

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SALT LAKE CITY, UTAH 84115
PHONE 486-8761

CERTIFICATE OF ANALYSIS
83-009725

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F mg/l SM413B	.29	.37	.26	.58	.79
Hardness,CaCO3 mg/l SM309R	500	500	2,400	450	700
Iron, Fe (Tot) mg/l SM303A	39.00	44.20	.24	77.60	.29
Lead, Pb (Dis) mg/l SM303A	.002	.021	<.002	<.001	.020
Magnesium, Mg mg/l SM303A	24.00	24.00	300.00	12.00	84.00
Manganese,Mn (Dis) mgl SM303A	.02	.02	.01	<.01	<.01
Mercury, Hg mg/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo (Diss) mg/l	<.001	<.001	<.001	<.001	<.001
Nickel, Ni (Dis) mg/l SM249.2	.04	.07	<.01	<.01	<.01
Nitrate, NO3-N mg/l SM418C	.64	.77	1.10	.33	1.00
Nitrite as NO2-N mg/l	.65	.71	.65	.70	.70
Phosphate PO4-P Ortho mg/l	.06	.03	.02	<.02	.04
Phosphate PO4-P Tot. mg/l	.15	.05	.04	.14	.03
Potassium, K mg/l SM303A	9.8	2.4	16.0	7.3	9.9
Selenium Se Dis. mg/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na mg/l SM303A	34.10	36.20	840.00	430.00	563.00
Sulfate, SO4 mg/l SM426D	140	250	3,470	880	1,300

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SALT LAKE CITY, UTAH 84115
PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-009725

	SW-1	SW-2	SW-4	SW-5	SW-6
Sulfide as S mg/l EPA 9030	<.01	<.01	1.50	<.01	1.10
Suspended Solids mg/l SM 209D	1,258	1,896	35.0	10,770	21.0
Total Dis. Solids mg/l SM209B	675	644	5,460	1,820	2,460
Zinc, Zn (Dis) mg/l SM303A	.010	.010	.020	.010	<.001
pH Units SM423	7.20	7.60	7.20	7.70	7.40

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CERTIFICATE OF ANALYSIS
R3-009725

	SW-7	SW-8
Aluminum, Al (Dis) mg/l SM306A	.220	1.800
Ammonia, NH3-N mg/l SM417C	.20	<.10
Arsenic, As (Dis) mg/l SM304	<.001	<.001
Barium, Ba (Dis) mg/l SM303A	.05	.06
Bicarbonate, HCO3 mg/l SM403	341.60	317.20
Boron as B (Dissolved) mg/l	.350	.250
Cadmium, Cd (Dis) mg/l SM304	<.0010	<.0010
Calcium, Ca mg/l SM303A	120.00	40.00
Carbonate as CO3 mg/l SM403	<.01	<.01
Chloride, Cl mg/l SM407A	86.0	141
Chromium, Cr (Dis) mg/l SM303A	<.001	.036
Conductivity umhos/cm SM205	2,200	2,500
Copper (Dis) mg/l SM303A	<.001	.010
Flueride, F mg/l SM413B	.23	.37
Hardness, CaCO3 mg/l SM309R	600	700
Iron, Fe (Tot) mg/l SM303A	.24	1.34
Lead, Pb (Dis) mg/l SM303A	<.001	<.001

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CERTIFICATE OF ANALYSIS
83-009725

	SW-7	SW-8
Magnesium, Mg mg/l SM303A	72.00	144.00
Manganese, Mn (Dis) mgl SM303A	.01	.01
Mercury, Hg mg/l SM320A	<.0002	<.0002
Molybdenum as Mo (Diss) mg/l	<.001	<.001
Nickel, Ni (Dis) mg/l SM249.2	<.01	<.01
Nitrate, NO3-N mg/l SM418C	.22	.82
Nitrite as NO2-N mg/l	.36	.70
Phosphate PO4-P Ortho mg/l	.02	<.02
Phosphate PO4-P Tot. mg/l	.12	.06
Potassium, K mg/l SM303A	4.9	4.6
Selenium Se Dis. mg/l SM304	<.001	<.001
Sodium, Na mg/l SM303A	281.00	301.00
Sulfate, SO4 mg/l SM426D	760	845
Sulfide as S mg/l EPA 9030	1.10	<.01
Suspended Solids mg/l SM 209D	26.0	206
Total Dis. Solids mg/l SM209B	1,500	1,630
Zinc, Zn (Dis) mg/l SM303A	.010	.010

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CERTIFICATE OF ANALYSIS
83-009725

	SW-7	SW-8
pH Units SM423	7.80	9.25

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ac cm 5/20

DATE: 05/01/84

CERTIFICATE OF ANALYSIS

U.S. STEEL CORP.
P.O. BOX AE
PAONIA, CO
V.R. WATTS 81428

84-008932

SAMPLE: SURFACE WATER SAMPLES FROM COAL CLEANING PLANT RECEIVED 3-19-84 UNDER P.O. 599-70550-192.

	SW-1	SW-2	SW-4	SW-5	SW-6
Aluminum as Al mg/l	9.800	12.190	.257	1.245	.206
Ammonia, NH3-N mg/l SM417C	<.10	.70	<.10	<.10	.20
Arsenic, As mg/l SM304	<.001	.016	<.001	<.001	<.010
Barium, Ba mg/l SM303C	.34	.33	.02	.28	.05
Bicarbonate, HCO3 mg/l SM403	268.40	341.60	634.40	427.00	329.40
Boron as B mg/l	.50	.44	.65	.40	.45
Cadmium, Cd mg/l SM304	<.010	<.010	<.010	<.010	<.010
Calcium, Ca mg/l SM303A	70.00	76.00	352.00	122.00	32.00
Carbonate as CO3 mg/l SM403	<.01	<.01	<.01	<.01	<.01
Chloride, Cl mg/l SM407A	20.0	5.0	150	45.0	50.0
Chromium, Cr mg/l SM303A	.060	.039	.002	.004	<.001
Conductivity umhos/cm SM205	800	850	7,690	7,900	2,300
Copper, Cu mg/l SM303A	.090	.090	.050	.050	.030

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-008932

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F mg/l SM413B	.24	.21	.38	.82	.74
Hardness,CaCO3 mg/l SM309R	360	360	205	2,930	490
Iron, Fe (Tot) mg/l SM303A	16.00	22.00	.52	3.90	.16
Lead, Pb mg/l SM303A	.005	.036	<.001	<.001	.025
Magnesium, Mg mg/l SM303A	44.40	40.80	280.80	630.00	98.40
Manganese, Mn mg/l SM303A	.89	.98	.30	.10	.02
Mercury, Hg mg/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo mg/l	<.001	<.001	<.001	<.001	<.002
Nickel, Ni mg/l SM303A	.05	.07	<.01	.03	<.01
Nitrate, NO3-N mg/l SM418C	.56	.65	1.67	2.40	.86
Nitrite as NO2-N mg/l	<.01	<.01	<.01	.15	.02
Phosphate PO4-P ~~Tot.~~ Orth. mg/l	.14	.04	.02	.12	.03
Phosphate as PO4-P ~~Dis.~~ tot.	.10	.03	.02	.10	.03
Potassium, K mg/l SM303A	2.8	2.6	15.6	6.8	4.8
Selenium, Se mg/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na mg/l SM303A	46.70	56.00	848.00	572.00	340.00
Sulfate, SO4 mg/l SM426D	200	199	3,025	3,550	810

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-008932

	SW-1	SW-2	SW-4	SW-5	SW-6
Sulfide as S mg/l EPA 9030	<.01	.05	.10	.06	<.01
Suspended Solids mg/l SM 209D	1,559	1,369	28.0	399	10.0
Total Dis. Solids mg/l SM209B	550	550	5,250	5,145	1,510
Zinc, Zn mg/l SM303A	.20	.19	.10	.08	.06
pH Units SM423	7.40	7.60	7.70	7.80	8.10

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CERTIFICATE OF ANALYSIS
83-008932

	SW-7	SW-8
Aluminum as Al mg/l	.257	1.920
Ammonia, NH3-N mg/l SM417C	.35	.25
Arsenic, As mg/l SM304	<.001	<.001
Barium, Ba mg/l SM303C	.05	.43
Bicarbonate, HCO3 mg/l SM403	414.80	451.40
Boron as B mg/l	.30	.26
Cadmium, Cd mg/l SM304	<.010	<.010
Calcium, Ca mg/l SM303A	128.00	150.00
Carbonate as CO3 mg/l SM403	<.01	<.01
Chloride, Cl mg/l SM407A	60.0	75.0
Chromium, Cr mg/l SM303A	<.001	.053
Conductivity umhos/cm SM205	3,200	5,200
Copper, Cu mg/l SM303A	.040	.070
Fluoride, F mg/l SM413B	.66	2.97
Hardness, CaCO3 mg/l SM309R	775	840
Iron, Fe (Tot) mg/l SM303A	.28	2.81
Lead, Pb mg/l SM303A	<.001	<.001

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-008932

	SW-7	SW-8
Magnesium, Mg mg/l SM303A	109.20	111.60
Manganese, Mn mg/l SM303A	.08	.13
Mercury, Hg mg/l SM320A	<.0002	<.0002
Molybdenum as Mo mg/l	<.001	<.001
Nickel, Ni mg/l SM303A	<.01	.03
Nitrate, NO3-N mg/l SM418C	1.23	1.62
Nitrite as NO2-N mg/l	.05	<.01
Phosphate PO4-P Tot. mg/l	.10	.06
Phosphate as PO4-P Dis.	~~.10~~	~~.05~~
Potassium, K mg/l SM303A	5.6	6.0
Selenium, Se mg/l SM304	<.001	<.001
Sodium, Na mg/l SM303A	410.00	476.00
Sulfate, SO4 mg/l SM426D	1,180	1,340
Sulfide as S mg/l EPA 9030	<.01	<.01
Suspended Solids mg/l SM 209D	11.0	622
Total Dis. Solids mg/l SM209B	2,100	3,380
Zinc, Zn mg/l SM303A	.09	.08

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CERTIFICATE OF ANALYSIS
83-008932

	SW-7	SW-8
pH Units SM423	8.00	8.00

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PHONE 466-8761

DATE: 02/06/84

QC CW 5/20

CERTIFICATE OF ANALYSIS

U.S. STEEL CORP.
P.O. BOX 807
EAST CARBON, UT
V.R. WATTS 84520

84-000829

SAMPLE: WATER SAMPLES FROM COAL CLEANING PLANT COLLECTED 1-13-84
RECEIVED 1-17-84 FOR ANALYSIS UNDER P.O. #599-70550-186.

	SW-1	SW-2	SW-4	SW-5	SW-6
Aluminum, Al (Dis) mg/l SM306A	.065	.080	.055	.089	.045
Ammonia, NH3-N mg/l SM417C	.25	.14	.30	.10	.15
Arsenic, As (Dis) mg/l SM304	<.001	<.001	.002	.005	<.001
Barium, Ba (Dis) mg/l SM303A	.02	.05	.04	.08	.12
Bicarbonate, HCO3 mg/l SM403	409.92	402.60	534.36	339.16	344.04
Boron as B (Dissolved) mg/l	.530	.460	.610	.450	.440
Cadmium, Cd (Dis) mg/l SM304	<.001	<.001	<.001	<.001	<.001
Calcium, Ca mg/l SM303A	168.00	176.00	424.00	120.00	120.00
Carbonate as CO3 mg/l SM403	<.01	<.01	<.01	<.01	<.01
Chloride, Cl mg/l SM407A	48.0	50.0	102	88.0	80.0
Chromium, Cr (Dis) mg/l SM303A	.012	.011	<.001	<.001	.005
Conductivity umhos/cm SM205	2,600	2,500	7,700	3,400	3,300
Copper (Dis) mg/l SM303A	.050	.020	.040	.030	.040

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CERTIFICATE OF ANALYSIS
83-000829

	SW-1	SW-2	SW-4	SW-5	SW-6
Fluoride, F mg/l SM413B	.28	.28	.34	.75	.76
Hardness,CaCO3 mg/l SM309R	870	890	2,260	710	670
Iron, Fe (Dis) mg/l SM303A	.94	.92	.72	1.49	.06
Lead, Pb (Dis) mg/l SM303A	.005	.002	.003	.001	<.001
Magnesium, Mg mg/l SM303A	108.00	108.00	288.00	98.40	88.80
Manganese,Mn (Dis) mg/l SM303A	.12	.14	.35	.09	.06
Mercury, Hg mg/l SM320A	<.0002	<.0002	<.0002	<.0002	<.0002
Molybdenum as Mo (Diss) mg/l	<.001	.015	.022	.013	.010
Nickel, Ni (Dis) mg/l SM249.2	.03	.04	.05	.01	.06
Nitrate, NO3-N mg/l SM418C	.98	.95	.82	1.17	1.28
Nitrite as NO2-N mg/l	.01	.01	.02	.14	.32
Phosphate PO4-P ~~Tot.~~ orth mg/l	.51	.55	.45	.46	.45
Phosphate as PO4-P ~~Dis.~~ Tot.	.38	.46	.22	.35	.27
Potassium, K mg/l SM303A	6.1	6.4	16.3	8.7	8.3
Selenium Se Dis. mg/l SM304	<.001	<.001	<.001	<.001	<.001
Sodium, Na mg/l SM303A	213.00	221.00	796.00	481.00	467.00
Sulfate, SO4 mg/l SM426D	880	910	3,250	1,290	1,230

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CERTIFICATE OF ANALYSIS
83-000829

	SW-1	SW-2	SW-4	SW-5	SW-6
Sulfide as S mg/l EPA 9030	.12	.10	.30	.10	.15
Suspended Solids mg/l SM 209D	10.0	21.0	24.0	244	8.0
Total Dis. Solids mg/l SM209B	1,700	1,670	5,150	2,260	2,160
Zinc, Zn (Dis) mg/l SM303A	.04	.03	.05	.02	.01
pH Units SM423	7.50	7.60	7.60	7.70	8.00

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PHONE 466-8761

CERTIFICATE OF ANALYSIS
83-000829

	SW-7	SW-8
Aluminum, Al (Dis) mg/l SM306A	.057	.088
Ammonia, NH3-N mg/l SM417C	.40	.35
Arsenic, As (Dis) mg/l SM304	.001	.008
Barium, Ba (Dis) mg/l SM303A	.20	.17
Bicarbonate, HCO3 mg/l SM403	351.36	378.20
Boron as B (Dissolved) mg/l	.380	.290
Cadmium, Cd (Dis) mg/l SM304	<.001	<.001
Calcium, Ca mg/l SM303A	144.00	160.00
Carbonate as CO3 mg/l SM403	<.01	<.01
Chloride, Cl mg/l SM407A	70.0	102
Chromium, Cr (Dis) mg/l SM303A	<.001	<.001
Conductivity umhos/cm SM205	3,200	5,100
Copper (Dis) mg/l SM303A	.032	.035
Fluoride, F mg/l SM413B	.56	.54
Hardness, CaCO3 mg/l SM309R	800	1,170
Iron, Fe (Dis) mg/l SM303A	.27	1.47
Lead, Pb (Dis) mg/l SM303A	.002	.004

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CERTIFICATE OF ANALYSIS
83-000829

	SW-7	SW-8
Magnesium, Mg mg/l SM303A	105.60	184.80
Manganese, Mn (Dis) mgl SM303A	.08	.21
Mercury, Hg mg/l SM320A	<.0002	<.0002
Molybdenum as Mo (Diss) mg/l	.007	.016
Nickel, Ni (Dis) mg/l SM249.2	.08	.05
Nitrate, NO3-N mg/l SM418C	1.01	1.13
Nitrite as NO2-N mg/l	.13	.11
Phosphate PO4-P Tot. mg/l	.49	.53
Phosphate as PO4-P Dis.	~~.45~~	~~.33~~
Potassium, K mg/l SM303A	7.7	8.5
Selenium Se Dis. mg/l SM304	<.001	<.001
Sodium, Na mg/l SM303A	380.00	675.00
Sulfate, SO4 mg/l SM426D	1,230	2,080
Sulfide as S mg/l EPA 9030	.20	.21
Suspended Solids mg/l SM 209D	6.0	309
Total Dis. Solids mg/l SM209B	2,120	3,390
Zinc, Zn (Dis) mg/l SM303A	.03	.04

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CERTIFICATE OF ANALYSIS
83-000829

	SW-7	SW-8
pH Units SM423	7.80	7.90

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